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Prairie State Paper Mills To Start at Joliet

Plant of the Former Eagle Paper Co. Is Being Thoroughly Reconditioned, Including the Installation of Filtering Equipment, Which Will Enable the Manufacture of a Higher Quality Product When Operations Are Resumed Shortly—H. J. Finder Heads the New Company and D. H. Green Is General Manager

JOILET, Ill., April 18, 1932—The Prairie State Paper Mills, of Adella avenue, this city announces the re-opening of the mill formerly known as the Eagle Paper Company.

For several weeks this property has been undergoing a complete re-conditioning including the installation of new filtering equipment which enables the production of a higher quality paper than previously furnished by this mill.

West Coast pulp is already moving in considerable volume via the waterway and Swedish pulp via the Great Lakes to the mill which will make it possible for manufacturing to commence on kraft, butchers and rag wrapping as well as various grades of mill wrappers, corrugating chip, etc.

H. J. Finder, associated with the paper industry in Chicago, is president of the new organization, and D. H. Greene, formerly manager of the Wisconsin Tissue Mills, Menasha, Wis., is general manager.

O. F. Simpson, for many years connected with the Graham Paper Company, St. Louis, Mo., and more recently president of the Flint Paper Company, Milwaukee, Wis., is sales manager. His wide experience in the merchandising end of the industry equips him unusually well to understand the jobbers problems in distributing such papers as the Prairie State Paper Mills will manufacture.

To Exhibit Paper Making Equipment

An exhibition of modern pulp and paper making equipment will be one of the features of the Thirteenth Annual Convention of the American Pulp and Paper Mill Superintendents Association. This Convention will be held June 2, 3 and 4 at the Hotel Statler in Buffalo.

The visiting paper making experts from all over the United States and Canada will have an opportunity to see demonstrations of the very latest developments in the various units of machinery that have been devised for producing paper.

Many types of control apparatus, the perfection of which is converting paper making from an art into a science, will be in actual operation. There will be exhibits of various methods of economical operation of all departments of pulp and paper mills, with recognized experts in attendance to demonstrate and explain the improvements that have occurred during the last year.

This exposition is expected greatly to facilitate the work of the Convention whose object is the discussion of ways and means of reducing the cost of paper manufacture. The exposition will be staged on the same floor as the business sessions of the Convention, so that the visiting superintendents will find it possible to view each exhibit with great convenience.

Jewell & Peck Paper Corp. Starts

WATERTOWN, N. Y., April 18, 1932.—Announcement was made last week by the newly incorporated Jewell & Peck Paper Corporation that activities had been started in its leased establishment in this city. The company was organized several weeks ago and is controlled by men who have been prominently identified with paper manufacturing for many years. The new concern plans to carry on a general jobbing business and will handle wrapping paper, food trays, ice cream containers, egg cartons, paper towels, napkins, school supplies, stationery and other articles. All modern facilities are provided in the plant.

Corwin T. Jewell, head of the firm, was connected with the St. Regis Paper Company in a responsible capacity for many years until he resigned last summer. He started his career with the Champion Paper Company in 1904 and later held prominent positions with the Island Paper Company, De Grasse Paper Company, and the Carthage Sulphite, Pulp and Paper Company. Mr. Peck was formerly identified with the sales department of the St. Regis Paper Company. The other director in the firm is Mrs. Frances K. Jewell.

Champion Paper Mill To Reopen

CARTHAGE, N. Y., April 18, 1932.—Operations are to be resumed at the Champion Paper Mills on May 1, according to official announcement this week. The plant has been shut down for the past few weeks and announcement of plans to reopen was welcomed by the business men of the community. The mill is to be operated on a basis of three shifts of eight hours each and about 75 workers are to be recalled.

Paper Demand Irregular In Philadelphia

Fine Paper Market Spotty, Despite Improved Request for Specialties—Book Papers Display Slight Improvement—Wrapping Paper Orders Confined to Immediate Requirements —Pennsylvania Paper Mills Operating On Curtailed Schedule

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., April 18, 1932.—Continued cold weather and retarded demand for many commodities active at this season influenced the paper market and kept business narrow. Dealers in the wrapping paper division were slightly more active in specialties normally purchased at this season. Orders, however, were confined to immediate future needs. Fine paper merchants continued to meet a spotty demand, with the market inclined to specialties, such as announcement paper for the coming June wedding season, better class of bonds, and a slightly improved business in book papers of the bulky grades.

Mills continued to confine operations to orders already on hand rather than to stocking for the future. Most of the manufacturers have returned to a part time schedule of three to four days in the working week. The most optimistic factor in the local paper industry is the steadier price trend. In all lines of paper there is a firming of prices and dealers look for a revision upward as soon as business warrants, rather than lowering of values. Paper merchants are well stocked to meet any revival in demand. Paper stock and rags are drifting, with little interest shown by manufacturers.

Paper Trade Association Activities

Following the aggressive campaign planned by President William A. Hentz, of the Philadelphia Paper Trade Association, the ranks of the organization have been augmented by addition of two prominent paper houses in the territory. At the meeting of the association held last Wednesday at the DuFour Restaurant, the Schuylkill Paper Company, of which James Andrew and Frederic S. Balch are proprietors; and the Central Paper Company, Trenton, N. J., with Emanuel Relles at its head, were enrolled. The Schuylkill Paper Company conducts a large paper business with local publishers and printers, while the Trenton house is a leader in the New Jersey capital.

President Hentz presided at the joint session of fine and wrapping paper divisions. He reported that the Credit Interchange Plan has made extensive progress and is working efficiently. A topic that was especially interesting to the members, and one which will be given serious consideration this Spring, is the matter of providing uniform samples. While an open question at the Wednesday meeting it was proposed that at a coming session the uniform sampling problem be taken up in detail.

In cooperation with the Philadelphia Typothetae and its allied associates in the Graphic Arts industry, the Philadelphia Paper Trade Association is to join in the Direct Mail Advertising Campaign sponsored by the Master Printers group for promoting the allied industries and their respective trades. The "More Business Movement" aims to stimulate business through the use of printed salesmanship—and to demonstrate the fact that direct mail advertising can be used profitably by national and local advertisers. It also suggests to concerns which have not used printing extensively in the past the advisability of using it now as a sales aid, with certain information concerning mechanics and procedure. Among the groups in the Graphic Arts industries contributing to the movement are the Philadelphia paper houses and paper mills. The field to be covered includes 6,000 important directing executives, users and buyers of printing. The plan formed will involve fifteen mailings in the initial effort, the first mailing to be sent April 26. Each mailing will suggest a form—or basic plan for direct mail unit which might profitably be used to advertise and sell a product or service. Copy, art work, plates, paper, press time, are contributed by the trades involved free of charge.

The association is represented in the Direct Mail Campaign by William A. Hentz, who is general chairman of the Graphic Arts Special Advertising Campaign Committee. President Hentz discussed the matter at the meeting of the Philadelphia Paper Trade Association, when he had the united approval of the body in support of the program.

David Rittenhouse Honored

Forty-two learned societies paid tribute to the memory of David Rittenhouse, the owner of the oldest paper mill in America, who rose to eminence in science, letters and art in the early days of Colonial America, on the 200th anniversary of his birth, April 8. Mr. Rittenhouse, who was born in a little house still standing on the banks of Paper Mill Run, just inside Fairmount Park, achieved his greatest fame as a maker of astronomical instruments whose excellence have withstood the test of time. He was vice provost of the University of Pennsylvania, member of the General Assembly, State Treasurer, first Director of the United States Mint, and president of the American Philosophical Society. The savants who paid tribute to his memory assembled at the Philosophical Society quarters, 104 South 5th street, at dinner, eulogized the noted colonist, and then made a pilgrimage to shrines in this city, including the site of the first paper mill on Wissahickon Creek. The present business of the Dill & Collins Paper Company is lineally descended from the original Rittenhouse mill established in 1690 by William Rittenhouse, grandfather of David Rittenhouse, and his partners in the enterprise, William Bradford, Robert Turner and Thomas Tresse. Grellet Collins, president of the Dill & Collins Company, was present at the dinner and told of the achievements of the Rittenhouse family in Colonial days and their association with the paper making industry.

Paper Jobbers Discuss Trade Conditions

With 100 per cent attendance, members of the Philadelphia Paper Jobbers Association met at the Elks Club Wednesday evening and talked on trade welfare as it pertains to the various associations throughout the East, and on general business conditions. E. K. Lay, the speaker, outlined constructive measures in the industry from his own observation, and gave details of the talk of former President A. W. Blackman, of the National Paper Trade Association, at the last convention as applying directly to the paper jobbers as well as to the distributors. In his resumé of the talk Mr. Lay advised the jobbers to do their part in eliminating harmful trade practices and stressed the need of co-operation of the individual members with officials of the national association, and with officers of their own group. Mr. Lay, who is connected with the paper industry as manufacturers representative, with offi-

ces in the Drexel Building, gave an account of past periods of depression and their following eras of prosperity, and predicted that similar brighter conditions will follow the present business gloom.

The Committee on Compilation of the Charter reported progress in framing the regulations. They were Chairman Ben Roseman, Federal Paper Company; Ben Kessler, and Myer Goldman, of the Goldman Paper Company. The members of the Credit Interchange Bureau, Charles Resnick, chairman, Ben Roseman and Lewis Gerber, of the Enterprise Paper Company, secretary of the association, reported on formation of credit matters and the outlines of a program which will be adopted for credit interchange work.

President Nathan D. Isen, of the Philadelphia Paper Jobbers Association, who has returned from a survey and visit to the various officials of the Eastern States paper jobbers associations, reported on the function and work accomplished by these groups over the many years of their organization. He made a survey of the work of the New York, Boston, and Pittsburgh jobbers organizations and produced some interesting data on the work that had been effected by these associations. He reported that these bodies had trade welfare well established and profitable control of business throughout the territories in those cities. He recommended many practices of those bodies to the local association.

President N. A. Considine, of the Paper House of Pennsylvania, was nominated to the office of first vice president of the Poor Richard Club for election slated for May 16.

Wood Pulp Tariff Duty Opposed

E. H. Gaunt, secretary of the Temporary Committee Opposing Tariff on Wood Pulp, of which H. P. Christian, of the Robert Gair Company is chairman, writing to the PAPER TRADE JOURNAL regarding a news item from Wisconsin in the April 7th issue referring to the wood pulp situation, states that the situation is a complicated one and many have been confused by it. He says that in an attempt to clarify the situation and show how the proposed legislation would affect the converting mills of the United States, the Temporary Committee Opposing Tariff on Wood Pulp has issued a statement which in part is as follows:

"Bills have been introduced in Congress which if passed would place a tariff duty on wood pulp in order to offset the so-called advantage of foreign producing countries which have departed from the gold standard. Such action is proposed in more than a dozen similar bills and is headed up in House Bill H.R. 8688 which proposes to place, on all items imported into the United States from countries which have departed from the gold standard, an additional tariff duty equivalent to the depreciation from the standard value of currency of the country as of October 1, 1931.

"For example, if on March 21, 1932 an article which had a value of 100 Krona was imported from Sweden, the additional duty under the proposed bill would be equal to the standard value of 100 Krona on October 1, 1931 ($26.80) less the value of 100 Krona on March 21, 1932 ($19.92), which would be $6.88 in addition to the existing duty, if any, under the tariff act of 1930. The result would be an additional ad valorem tariff duty of nearly 35 per cent.

"In so far as wood pulp, which is on the free list, is concerned this proposal has two basic economic defects:

1. It assumes that the cost of production is evenly balanced between the United States and the principal foreign countries exporting to the United States, based on the standard value of the currencies of the countries as of October 1, 1931.

2. It assumes that the cost of all items entering into the production of wood pulp, such as labor, wood, chemicals, power, taxes, etc., have decreased, in terms of gold, proportionately to the decrease in the foreign exchange rate.

"The first assumption is immediately disproved by the well-known fact that foreign pulps have consistently been sold in the United States at higher prices than domestic pulps. The second assumption is entirely disproved by the economic fact that the cost of domestic materials, labor, etc., in a country which has departed from the gold standard tends to increase and in due time adjust itself to the new values, and that other materials must be purchased in the world market in terms of gold.

"Prior to September, when all the countries were on the gold standard, wholesale prices were declining at approximately the same rate in all six countries. Since that time four of the countries (Finland, Norway, Sweden and Canada) have left the gold standard. The effect of this change is shown clearly as wholesale prices have continued downward in the United States and Germany, which remained on the gold standard, and have remained approximately the same or increased materially in the other four countries.

"The increase is directly proportionate to the amount the currency has depreciated, showing conclusively that increasing prices tend to offset any depreciation in currency. As a result the cost of materials, labor, etc. tends to increase to a point which offsets the fall in exchange and completely wipes out what might on the face of it appear to be an advantage. This relationship shows conclusively the injustice of any legislation which would levy duties based on depreciated currencies."

More Common Use for Paper

FORT WAYNE, Ind., April 18, 1932—"Undoubtedly the reason for our increase in sales this season over the same period last year, lies in the fact that the public is becoming educated to the economy, convenience and sanitation of paper," declared Ira. D. Rohrer, vice president of the John Wilding Paper Company, here Saturday. The wholesale company carries all lines of paper and covers the northeastern section of the state with a large force of salesmen.

"For example," continued Mr. Rohrer, "business men have learned that their stationery carries a silent message to their prospects; housewives have learned that there are everyday uses for paper which not only save time and labor, but also prove attractive and sanitary; retail merchants have become acquainted with the need of using best quality papers for wrapping. Paper men constantly are finding new uses for paper and that is the reason we feel there is no cause for alarm.

TAPPI Delaware Valley Section Meets

The April meeting of the Delaware Valley Section of the Technical Association of the Pulp and Paper Industry will be held on the 21st at the Engineers Club in Philadelphia.

Dr. G. E. Landt and E. N. Wennberg of the Continental Diamond Fibre Company, and Christian L. Siebert, executive engineer of the Pennsylvania State Water Board will discuss "Preparation of Waters and Disposal of Trade Water Waste."

Kimberly-Clark Corp. Re-elects Officers

F. J. Sensenbrenner Continues to Head Neenah Organization—Annual Report Showed Material Improvement In Cash Position, Despite Decrease In Gross Sales—Wisconsin Paper and Pulp Manufacturers Favor Import Duty On Foreign Pulp

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., April 18, 1932—All officers and directors of the Kimberly-Clark Corporation, Neenah, Wis., were re-elected at the company's annual meeting last week. They are: F. J. Sensenbrenner, president; Ernst Mahler, S. F. Shattuck, John S. Sensenbrenner and William Bonifas, vice presidents; C. A. Sommerse, treasurer, and F. E. Sensenbrenner, assistant secretary; directors, in addition to above, S. R. Stilp, C. B. Clark, J. C. Kimberly and Charles H. Sage, all of Neenah; Frederick Warburg, New York; Melvin L. Emerich, Chicago; Walter Kasten, Milwaukee, and W. H. Ryan, Appleton, Wis. Mr. Bonifas resides at Escanaba, Mich.

Annual reports of the company reported in previous issues of the PAPER TRADE JOURNAL showed a decrease in gross sales, net earnings equal to about half the previous year, but a material improvement in the company's cash position.

Paper Mill Classes Planned

Plans for educational work in the paper industry under auspices of the vocational schools of Wisconsin during the 1932-1933 season were submitted to a group of 25 paper mill executives at a meeting held at the vocational school at Appleton, Wis. last week. They were unanimously adopted.

H. G. Noyes, director of this work for the state vocational board, was the speaker. He traced the history of the program since it was started in 1918, stating that education had been offered in five fields, management, operatives, maintenance men, power workers and technical men. A readjustment in the day and evening classes was suggested, with four methods to be used next year, lectures, demonstrations, recitations and discussion conferences. He also recommended that the program be put on a short unit basis during the next two years.

Hundreds of employees have taken advantage of mill classes to learn more about their work and the whole subject of paper making, especially among those seeking advancement.

Emergency Tariff Bill Gains Support

Co-operation has been assured by paper and pulp manufacturers of the Wisconsin River Valley in the movement to establish an import duty on foreign pulp to offset the differential between low wages, low bidding standards and depreciated currency of European countries. Resolutions are being adopted urging congressmen and senators to support the Hawley-Beattie bill in congress, which provides an emergency tariff equal to the currency differential, such tariff to be in effect until December 1, 1933.

Forest Fire Precautions

Fire look-outs have been stationed in the state and federal towers in the northern Wisconsin forests, with the advent of dry weather and the danger of grass and brush fires. Efforts will be made to reduce to a minimum this year any losses from this source. Three towers in the northwest section are being replaced with higher ones, ranging from 68 to 100 feet so as to provide more effective supervision. Fire rangers also are being assigned to the hazardous territory to respond immediately when small blazes are discovered.

New Fourdrinier Installation Completed

Installation of the new Fourdrinier paper machine at the Thilmany Pulp and Paper Company, Kaukauna, Wis., has been completed. Test runs are expected to be made this week, preliminary to the steady operation of the new equipment.

The Turbo-Mixer

The Dorr Company, Inc., has announced that, through arrangements made with the Turbo-Mixer Corp., it has secured exclusive sales rights to the Turbo-Mixer and other Turbo equipment in certain of its principal fields. Henceforth, The Dorr Company will offer agitators and mixers of both its own and Turbo-Mixer design and in this way will broaden the scope of its equipment and services in those fields where agitation is an important unit operation in the process cycle.

The Dorr agitator has found its greatest field where the time element in processing is a matter of at least half an hour or so and where the solids and liquid must be kept in intimate contact and in motion with respect to each other during this period. The Turbo-Mixer finds its chief field where an intimate mixing is required in the shortest time possible, with or without aeration. The Turbo-Aerator, a variation of the Turbo-Mixer is especially adapted to conditions where an even diffusion of a large volume of air or gas throughout the tank contents is desired during agitation.

In the Dorr Agitator mixing in the horizontal plane and the prevention of the segregation of solids upon the tank bottom is provided by raking arms revolving close to the bottom, while mixing in the vertical plane is secured by the rapid upward circulation of the tank contents through a central air lift column or by an impeller in a draft tube. In the Turbo-Mixer this same, two plane mixing is secured by a special, high-speed impeller, mounted on a central, vertical shaft, which draws the tank contents vertically and axially towards its center and then expels them violently outward horizontally in a radial direction, thus scouring the bottom and sides of the tank.

In pulp and paper mills the Turbo-Mixer is already established. It is well adapted to the storage and mixing of paper stock. Sizing, filling and coloring matter may be mixed rapidly and thoroughly and generally not more than six minutes are required for treating in this way a volume of stock equivalent to a standard beater batch.

It is adapted to the blending of various types and grades of pulp and stock. It also finds a field of application in the preparation of bleach liquor by chlorinating a suspension of milk of lime, since the chlorine may be injected close to the throat of the impeller and thus dispersed rapidly and completely through the contents of the tank.

The Turbo-Mixer is well suited to causticizing requirements and may be used either with the continuious or the batch system. This type of mixer will be available for the causticizing tanks in connection with the Dorr continuous causticizing system at both soda and sulphate mills.

Empire Economic Conference to Meet In Ottawa

Paper and Pulp Manufacturers Preparing Fight for Concessions to Enable Them to Compete With Foreign Interests In British Markets—Proposed Preferences May Result In Switch of British Trade From Scandinavia to Canada

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., April 18, 1932—The pulp and paper manufacturers of Canada, as well as the lumber manufacturers, are looking with great hope and interest to the Imperial Economic Conference which is to be held in Ottawa, commencing in July, next, with the avowed purpose of working out a plan whereby the countries within the British Empire can exchange products on a much larger scale than in the past, under a system of preferential tariffs. While they have not yet made their plans public it is known that elaborate preparations are being made by the interests above mentioned, in conjunction with other producers, by which they hope to secure such concessions as will allow them to compete with foreign productions in British markets and therefore find on those markets a much larger outlet for pulp, paper and forest products generally than heretofore.

From authoritative sources it is learned that according to recent returns, the United Kingdom, over a five-year period, imported paper and cardboard products to the average value of $78,730,000, of which only $11,000,000 come from Empire sources. During the same period the average annual imports of timber amounted to $233,115,000, of which over $205,000,000 was paid to foreign countries. In the same period the imports of wood and timber manufacturers amounted to an average per annum of $34,135,000 per annum, of which $32,255,000 was foreign. Here is a total importation of forest products amounting to $345,980,000, and of this over $300,000,000 came from sources outside the Empire.

Exports to United Kingdom

Last year Canada's total exports of wood, wood products and paper to the United Kingdom amounted to $14,024,476, as against similar exports to the United States of $145,615,387. In 1930 the totals were $18,027,877 and $193,372,317 respectively.

Here a difficulty as far as Canada is concerned, presents itself. Canada's exports to the United States were largely made up of pulp and paper. England's imports of similar products come largely from Scandinavian sources. If the proposed preferences resulted in the switching of Britain's trade from Scandinavia to Canada, the Scandinavian countries would most likely make a concentrated drive for American markets, and put up a competition that would be prejudicial to Canada's trade. In regard to lumber, the situation is different. Canadian producers are particularly insistent on replacing Russian lumber in the British market, and the prospects are considered good for the inauguration of a big trade.

Exports to China

From Vancouver it is announced that British Columbia pulp mills have been able to increase their direct sales to Shanghai as a result of the Chinese embargo on Japanese paper. The Chinese are now buying pulp from Canada instead of from Japan and manufacturing it in their mills.

However, this additional business hardly compensates for the general loss of trade with the Orient, as a result of the recent hostilities, accompanied by high insurance rates on shipments, fluctuations in exchange and economic instability of the warring countries. An early return to peaceful conditions, it is believed, would be followed by the placement of substantial orders on this coast by both Japan and China for not only pulp and paper but lumber and other Canadian products as well.

Big Potential Timber Market

In other words, here is a market for $300,000,000 worth of timber wholly filled from foreign sources, yet it is claimed that the whole of the requirements of the United Kingdom could be filled from Empire sources. Much of it, of course, Canada is not in a position to supply. Nevertheless the contention is that Canada could supply a very substantial amount and strenuous efforts to secure preferences that will allow of this being done are to be made at the forthcoming Conference.

O. W. Mielke Made General Manager

Otto W. Mielke, for many years head of the Blake, Moffitt & Towne houses in the Pacific Northwest, has been appointed general manager of the company according to the recent announcement made by the San Francisco headquarters of the organization. In his new position Mr. Mielke will have charge of purchases and sales throughout the chain of houses operated by the company and it is understood that he will transfer his residence and activities to San Francisco by the end of April.

Prominently identified with the paper business of the Pacific Northwest for a period of over 33 years during which time he has contributed in large measure to the development and expansion of the company's business in the region, Mr. Mielke brings to his new position a valuable record of experience and achievement. The post to which he has been called is the most important one in the company's merchandising activity.

In assuming his new duties he succeeds E. A. Doran, whose sudden death occurred on March 1. However, in addition to this work, it is understood that Mr. Mielke will continue as president of the Blake, Moffitt & Towne units in Oregon and Washington, and that he will have complete charge of the sales and purchasing policies of the entire organization, which today numbers 17 Divisions up and down the Pacific Coast.

The news of Mr. Mielke's appointment was received with much enthusiasm throughout the trade, where he has long been recognized as a leader in the paper industry and a strong influence in all activities centered around the establishment of sound business practice.

A man of wide interests, Mr. Mielke has for a considerable period devoted attention and effort to civic affairs. Since its organization two years ago he has served as president of the community advertising organization—On-to-Oregon, Inc., and is past president of the Rose Festival Association, being particularly active in attempting to put the Portland civic pageant on a self-sustaining basis. Last year, Mr. Mielke headed the activities of the Central Committee of the Community Chest and he was also chairman of the House Committee of the American Legion Convention Commission.

Ontario Paper Manufacturers Fairly Active

Fine Paper Plants Operating At Approximately 75 Per Cent of Capacity—Bonds, Ledgers and Writings In Moderate Request—Coated Paper Orders Distinctly Slow—Coarse Paper Situation Weak—Position of Board Mills Improving

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., April 17, 1932—While there is a steady flow of small order business in the paper industry in Ontario, the volume still continues light. With reduced staffs and general curtailment in the business and mercantile world generally, requisitions for paper, envelopes and stationery by business houses is light and this is being reflected in both the wholesale and mill end of the paper industry throughout the province. Notwithstanding this, however, most of the larger paper houses are able to report a fair amount of business for April when the present trade depression is taken into account, and if the individual orders were larger there would be little cause for complaint. This is chiefly in respect to the fine paper market. As far as the coarse paper market is concerned weak market conditions have existed for some time and very little improvement has been recorded for some time. In all lines the tendency exists to purchase the cheaper grades of paper and this feature of the wholesale paper trade is likely to continue until general business conditions improve.

Fair Activity

There is a fair degree of paper manufacturing activity, especially in the fine paper section and here and there one hears of a mill that is operating close to capacity. Generally speaking, however, the mills may be said to be operating at about seventy-five per cent of capacity, with a few lower than that. The board mills are gradually improving their position, although manufacturing operations and sales are still on a far too light basis, due, to some extent, to the light demand for raw stock from the paper box manufacturing industry. The packaging manufacturing business has been operating lightly all winter and summer, although some plants have increased their output by originating specialty lines which have taken on well and helped keep certain plants running. The paper converting trade is still slow and there is a comparatively light demand for envelopes and general stationery lines. Business among the manufacturers of toilets, tissues and light weight paper specialties generally has been keeping up fairly well in the face of the present trade depression. Book paper manufacturers are perhaps in the busiest group, but mill executives in that line declare business to be highly competitive as it is with all the fine paper sections. There is a fair call for bonds, ledgers and writings, but manufacturers of coated papers report orders as distinctly slow in coming in. Glassine, grease proof and waxing lines are also in light demand just now, while on the other hand there is quite a fair call for manilas, tags, blanks and blotting. One mill reported that so far this April had shown a distinct improvement over any month since the winter and spring had set in.

Abitibi Power Project Up To Schedule

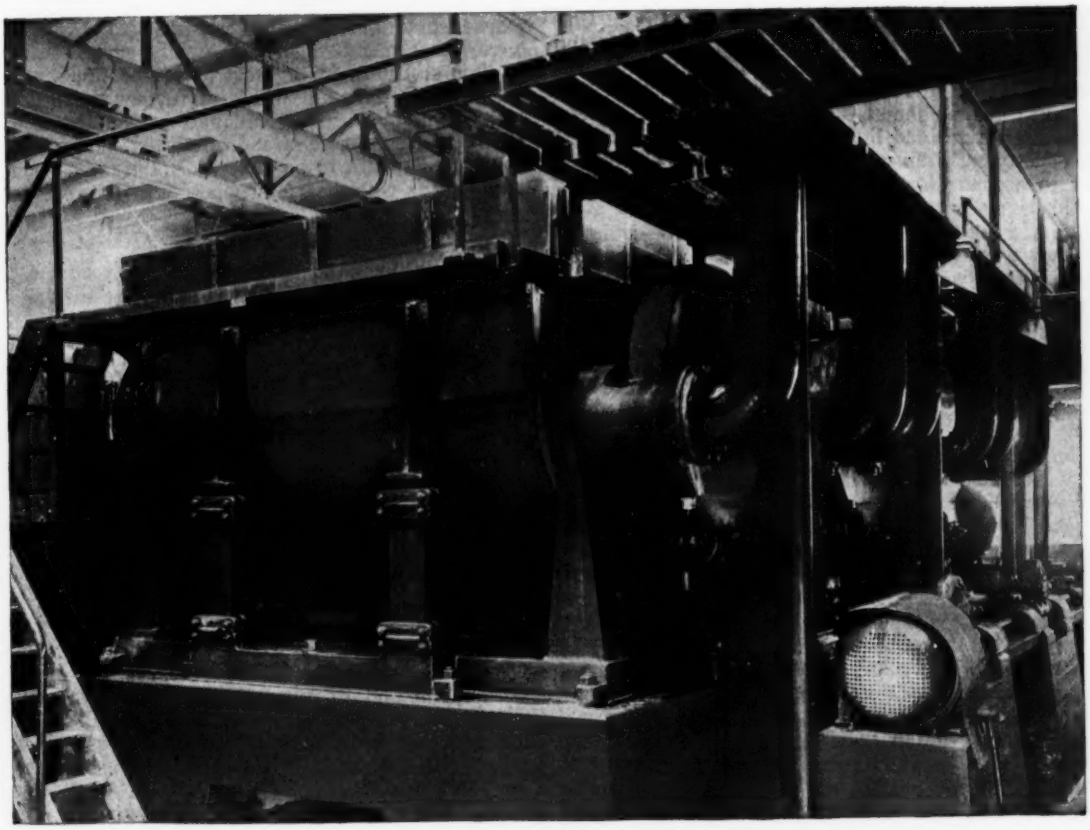
Ontario Power Service Corporation, $23,000,000 project at Abitibi Canyon, seventy miles north of Cochrane, is reported by officials of the Abitibi Power and Paper Company, parent company, to be well up to schedule. In order to deliver 85,000 hp. as per contract to the Hydro Electric Power Commission at Hunta for transmission to Sudbury on October 1, the first two generators will have to be in operation. The installation calls for five 66,000 hp. vertical turbines with generators of 48,500 kv.a. capacity. The power house, the non-overflow section of the dam, and the head works, are built in the gorge with a spillway section on the east bank and a non-overflow abutment and wing wall on the west. The gorge dam will be 580 feet long, the spillway dam 270 feet long, and the generators will have 242 feet of water head. The dam is to be 250 feet high from the bottom up to the highest point. It is fed by a draught area of 8,443 square miles and the dam will back the water of the river twenty miles.

William E. Chapman, United States Consul at North Bay, who has issued a report on the project, states that the estimated horse power capacity of the plant at 80 per cent efficiency is first, 101,200 for the ordinary minimum flow of the Abitibi River, and second, 138,820 for the ordinary six months flow. Power will be carried at 132,000 volts on two steel tower lines from the dam to Hunta, on the Canadian National Railway line ten miles west of Cochrane and sixty miles southwest of the dam. The commission then takes the current 190 miles south to Sudbury. Mr. Chapman thinks there will be an outlet for power in the district as well as in connection with the new coal and fire-clay discoveries north of the canyon. The Ontario Hydro-Electric Power Commission line from Hunta to Sudbury cost $2,000,000. When the company is ready to deliver power it will have to close down the two de-watering tunnels, 1,200 feet long, which were driven through solid rock on the west side of the river.

Pulpwood Cut Lightest in Years

The pulpwood business in Northern Ontario is more or less in an unsatisfactory condition with little or no demand. One redeeming feature of the situation is that there is the lightest output that there has been for many years and, when the mills do come back in the market they will find pulpwood a scarce commodity. One of the largest dealers is A. L. Perkins, of Powassan, Ont., who says that there is only one thing wrong with the Canadian pulp and paper situation and that is that it is hopelessly overcapitalized. "There has been no encouragement," he said, "and no incentive to take out pulpwood during the past twelve months. Canadian mills still refuse to buy from Canadian shippers. Until they are compelled to do so by the governments of Ontario and Quebec, the pulpwood market will, in our opinion, be more or less in a precarious condition." R. Girouard, dealer in pulpwood at Smith's Falls, says that little pulpwood has been cut in that part of the country unless previously contracted for. The mills have a large stock on hand and prices are low. Owing to the uncertainty of the future United States mills have not yet taken up the matter of contracting for 1933 delivery. Mr. Girouard says that practically all of the pulpwood cut in that part of Eastern Ontario is poplar, and most of it is shipped to American plants. The situation is best summarized, he adds, by stating that the demand is poor, prices are low, and freight rates are out of line with present prices.

Screening costs so little



.....have the best!

There's practically no difference in cost between using the most inefficient or inadequate screening equipment that can still be forced to handle the stock, and using the *right* number of Bird Screens fitted with the *right* screen plates for turning out the cleanest possible stock.

Screening is a low-cost operation either way. You might as well have the best.

Let us go over your screen installations, show you how little it costs to get the *best* result instead of just *a* result. (Bird Screens, installed on this basis, have cut one mill's dirt count in half.)

BIRD MACHINE COMPANY ◆ SOUTH WALPOLE, MASSACHUSETTS

BIRD SCREENS

5381

Chicago Paper Market Practically Unchanged

Demand for Various Standard Grades of Fine Paper Slightly Better — Kraft Wrapping Paper Reported Hard and Firm—News Print Paper and Ground Woods Comparatively Slow—Kraft Institute and Writing Paper Manufacturers Convene

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., April 18, 1932—Chicago was the center of attraction for an appreciable part of the paper industry during the past week as two separate groups met in Chicago in an effort to make headway against lack of demand and danger of unstabilized conditions. The two meetings contributed somewhat to sentiment in local markets, particularly in kraft, sulphates, sulphites, writing papers, etc. Business itself remained little changed over the previous week; a spotty condition prevailing which makes it doubly difficult to account for the exact situation.

The kraft market was hard and firm—reported more firm than at any time since the depression set in—and representatives of the market seem determined to retain that condition. Some weaknesses in sulphite and writing papers was reported though there are plenty of indications that herculean efforts are being made to bring these markets through in good shape. Fine papers reported more spirited demand during the earlier part of the week—a seeming indication of bettered sentiment in general business.

Work of Kraft Institute

An important and purposeful meeting of the Kraft Institute was held in Chicago on Thursday, April 7 and Friday, April 8, all sessions of the meeting being held at the Drake Hotel. One of the most hopeful reports that came from the meeting, which did not apply directly to business, was the statement that every member of the Institute, with the exception of one, was represented—and the member absent is reported to be thoroughly in accord with the present purpose of the Institute. Under the supervision of O. H. Porter, secretary, representatives of Bogalusa, International, Calcasieu Sulphate, Mosinee, Tomahawk, Nekoosa-Edwards, Manufacturers Paper, and other members reviewed the kraft situation thoroughly. It is reported that all were united in a confirmed desire to keep a hard and firm market and to take steps, whenever and wherever necessary, to prevent suicidal efforts to soften it. Further reports were to the effect that lack of demand continued to be an unusually serious problem confronting the kraft industry and that if the lack of demand continued production would be even more curtailed. At the present time members of the Institute are carefully and surely watching this demand curve and keeping it definitely in line with production schedules, according to reports. The firm conditions of the kraft market is taken as an indication that the Institute is successfully getting itself "out of the woods."

Writing Paper Manufacturers Meet

The Writing Paper Manufacturers Association contributed their share toward holding the spotlight of interest on Chicago when they convened at the Blackstone Hotel for a two day session on Tuesday, April 5, and Wednesday, April 6. Sessions were held for both the sulphite and rag content manufacturers, and though no public reports were made of the results of the two meetings it is known, of course, that means of stabilizing the market in these lines constituted the major business up for discussion. A reported weakness in the market would indicate, say reports, that the organization is none too sure of its ground although very hopeful that all firms manufacturing these items will be made to see that much of the improvement must come through common sense methods as applied to market conditions. It is further reported in Chicago paper circles that members present finally agreed upon a sort of "moratorium" for a short period of time—probably a week or ten days—in which to further go into the subject of supply, demand and market conditions. This is taken, say reports, as an indication that there is still some constructive work to be done—including missionary work—in getting wholehearted cooperation from everyone concerned.

Paper Merchants Discuss Replacement Costs

Four speakers, all members and well known in local trade, contributed the feature of the last regular meeting of the Chicago Paper Association held at the Bismarck Hotel on the evening of April 12. That the meeting was interesting and not without results is indicated by the report that it was the longest session, from standpoint of hours, that the association has as yet held. Earl Beier was chairman of the meeting and excellent talks were given by D. F. Peck, James S. Danehy, Mr. Beier and M. A. McNulty—all of whom were assisted by an informal round table discussion. Nearly all of the speaking was centered around the necessity of getting members to work in accordance with replacement costs rather than to "give merchandise away." Mr. Peck reported on the meeting of the Kraft Institute and talked on general conditions, pointing out that the Institute was doing a commendable piece of work in keeping the kraft market firm and that it was up to the wholesalers and jobbers to follow suit in a sensible method of running their individual businesses. The other speakers followed closely along these lines, urging members to assist in a general program designed to keep the strength that the local market has, to some measure, held.

Chicago Paper Salesmen's Activities

A dark horse nominee, Courtney Reeves, of the Allied Paper Mills, has been chosen as chairman of the golf committee of the Middle West Division of the Salesmen's Association of the Paper Industry. Mr. Reeves is to begin immediately his work of outlining the golf program to be followed with, of course, special emphasis placed on the date of the opening tournament to be held in May. The association, at its Monday, April 11, meeting adhered to its policy of round table discussions only, with either Creighton Whiting or Harold Knott keeping the discussion going. The two meetings held in Chicago during the past week—the Kraft Institute and the Writing Paper Manufacturers—provided the news for the various discussions.

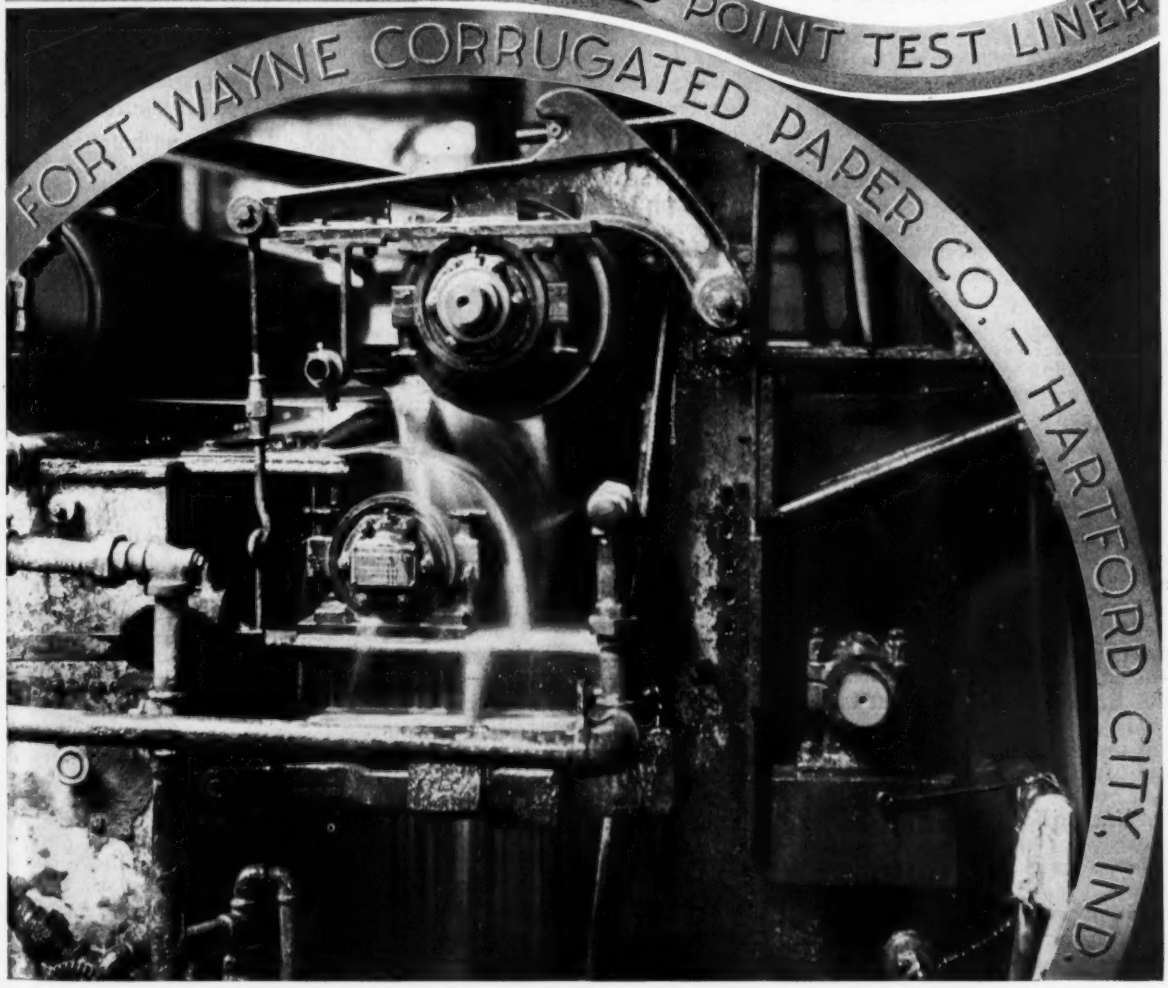
Blunden-Lyon Company Moves

The Blunden-Lyon Company, general paper merchants, has removed to larger and more attractive quarters at 560 West Lake street, telephone number Dearborn 9750. The company is changing the style of its house organ "The Slip Sheet," running it on more elaborate stock, and endeavoring to make it more interesting than ever. There are fifteen members of an efficient sales force.

DOWNINGTOWN

EXTRACTOR ROLL ON 16 POINT TEST LINER

Extractors on high speed machines demonstrate their value in helping to maintain high speeds continuously, by removing large quantities of white water safely from the sheet before it enters the presses. All of the presses can now be heavily weighted without injuring the sheet in any way. The top felt stays cleaner, thus ensuring safer running of the machine. The Downingtown Manufacturing Co., Downingtown, Penna.



FORT WAYNE CORRUGATED PAPER CO. - HARTFORD CITY, IND.

Newspaper Publishers Fight Wood Pulp Duty

Counsel of American Newspaper Publishers Association Appears Before Senate Finance Committee to Oppose Proposed Tax on Chemical and Ground Wood Pulp—Claims Depreciation of Foreign Currencies Has Not Affected Competitive Situation

WASHINGTON, D. C., April 20, 1932.—Elisha Hanson appeared before the Senate Finance Committee yesterday, on behalf of the American Newspaper Publishers Association in opposition to the proposed amendment to the pending tax bill of Senator Jones, of Washington, for a duty of one-sixth of one cent on mechanically ground wood pulp, one-third of one cent per pound on unbleached chemical wood pulp, and one-half of one cent per pound on chemical wood pulp. Mr. Hanson said in part:

"Newspaper publishers are very much interested in this amendment for two reasons: First, it seeks to overturn a policy which has long been established by our Government; and second, it seeks, indirectly, to place an additional burden, in the nature of increased prices of news print paper, on publishers of daily newspapers. For many years, news print paper and its component elements have been on the free list. They were placed on the free list for two reasons: One, because the production in the United States is not sufficient to meet the demands of our consumers; and the other, because the depletion of our forest reserves had progressed to such a state that the Congress, in its wisdom, determined to protect our forests by providing for the admission free of duty of certain forest products which were essential to our domestic consumption, believing that the free importation of these products would tend to slow up the devastation of our natural resources in timber, particularly in spruce and hemlock.

"During the last twenty years, in normal periods, there has been a steady increase in our importation of news print paper in proportion to our domestic consumption, due to the fact that domestic manufacture has been entirely unable to meet the demands of newspaper publishers. By far the greater amount of our imported news print paper comes from Canada, where American capital has been employed in the location of news print mills close to supplies of cheap pulpwood.

"As news print paper is made up wholly of mechanically ground wood pulp and chemical wood pulp, it is patent that a duty on either one or both of these commodities would result in an increase in price of news print paper in the United States. It would certainly compel the domestic manufacturer of news print paper, who is largely dependent upon importations of wood pulp and chemical pulp, to raise his prices to meet the increased cost of his raw materials.

"Roughly speaking, there are about 600 paper mills in the United States. Of course, not all of these manufacture news print paper, but they do manufacture paper of all kinds and descriptions. About one-fifth of these 600 mills are known as self-contained mills, that is, mills which produce their own raw materials and from them in turn manufacture their own finished product. The other four-fifths of our paper mills are dependent upon the open market for the purchase of their raw materials, so that if a tariff be levied on their raw materials, it is quite apparent that such a tariff will place them at a tremendous disadvantage as against the fewer number of self-contained mills.

"News print paper, which is the cheapest of all papers now manufactured, is the only grade of paper which is on the free list in the tariff law. All other grades of paper are given protection in varying amounts for varying grades. No evidence has been submitted to your committee that, at the present time, the producers of the raw materials entering into the manufacture of paper have suffered from any greater depreciation of commodity prices than the manufacturers of the finished product. In fact, the prices of pulp have not fallen lower in proportion to the fall in price of the commodities into the manufacture of which pulp enters.

"I presume that the question of the effect of the depreciated currencies of foreign pulp producing countries on the prices of imported pulp will be raised before your hearing adjourns. The Senate has asked the Tariff Commission to present it with a report on this problem. That report has not yet been presented and I do not know when it is likely to reach you. However, according to the best information I have been able to obtain, there has been no appreciable effect in the competitive situation by reason of the depreciation in foreign currencies. While the currency has been depreciated, the price of the product has been increased to offset the depreciation in money, and I feel confident that the Tariff Commission's report, when it reaches you will indicate this clearly."

Paper Mill Employment

Reports received from 391 paper and pulp mills by the Bureau of Labor Statistics, Department of Labor, gave their January employment at 75,787 which was a decrease of 0.3 per cent from December and of .2 per cent from January of last year. The average weekly payrolls in January amounted to $1,509,994, a decrease of 5.9 per cent from December and of 22.7 per cent from January of last year.

Reports were also received by the Bureau from 294 paper box factories which gave their January employment at 21,205, a decrease of 8.4 per cent from December and of 9.9 per cent from January of last year. The average weekly January payroll was $409,527 a decrease of 12.1 per cent from December.

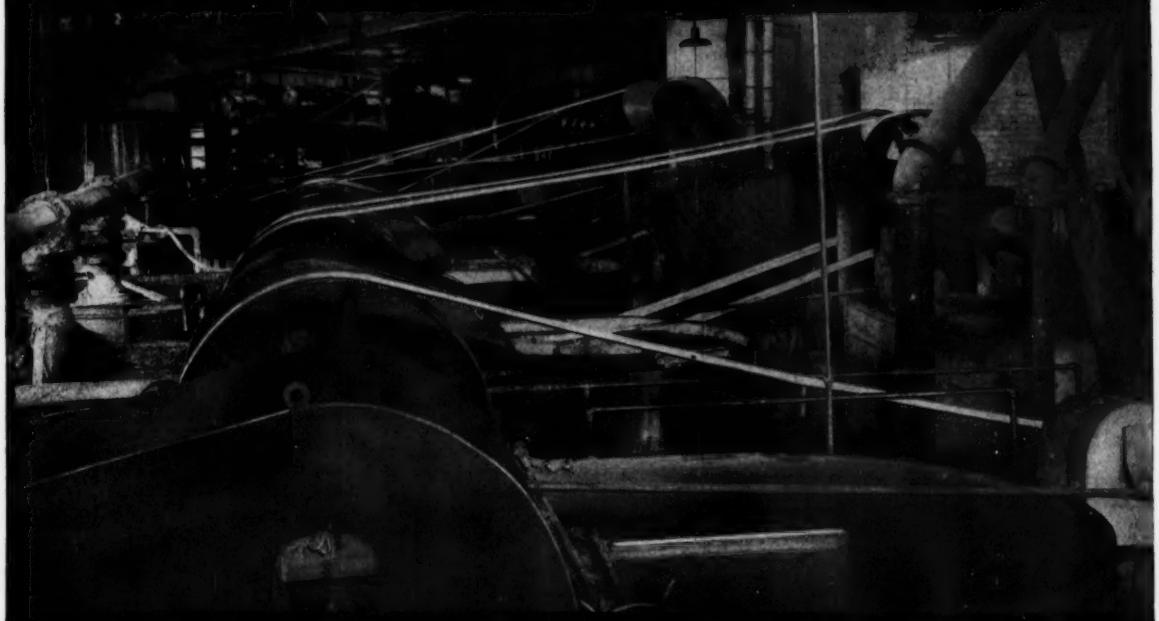
Selects Paper Containers

Following extensive experiments for the past twenty-four months, the American Cyanamid Company, New York, has definitely determined that paper bags present the most suitable container for its various chemical products, and such containers will be used in the future. The use of the new package will involve less dusting, it is stated, less labor difficulty in unloading, and facilitates ease in handling under different conditions, as well as insuring perfect emptying.

Victoria Blotting

The Joseph Parker & Son Company, blotting paper manufacturers, with mills at New Haven, Conn., are mailing to the trade throughout the country sample books of a new line of blotting paper which they call Victoria Blotting. This grade of blotting is in the lower priced field and comes in nine colors and white.

PUT YOUR FAITH IN



GOODYEAR EQUIPMENT

Throughout the paper industry, Goodyear Mechanical Rubber Goods bear an exceptionally good reputation for efficient, economical service.

This is because Goodyear has designed this equipment particularly to meet the needs of this industry's operating conditions and processes.

Take, for example, the belt Goodyear builds for your hard drive duty — Goodyear THOR Belt, seamless*, for your beaters, Jordans, pumps, cone-pulleys and chippers.

THOR does wonders on these jobs because it's built to handle them:

No center seam to open under flexing strain;

Edges envelope-protected against fray;

Body of heavy silver duck, strong at the fasteners and cushioned and buttressed in Goodyear Rubber.

BELTS
MOLDED GOODS
HOSE
PACKING

Other Goodyear Mechanical Rubber Goods for paper mill service are likewise carefully designed and built for your purposes — Goodyear Soft-Nozzle Sanitary Hose, for example — and likewise accurately specified to your requirements by the G.T.M. — Goodyear Technical Man.

Goodyear now offers the latest tested Goodyear development for the paper industry: **GOODYEAR RUBBER ROLLERS FOR PAPER MILL USE.**

Why not talk over these new Goodyear developments in the light of your plant requirements or problems with the G. T. M.? A word to Goodyear, Akron, Ohio, or Los Angeles, California, will bring him.

**Goodyear* THOR *Belting, seamless, is made in widths up to and including 16"—*THOR *quality of special construction is available for larger sizes.*

THE GREATEST NAME IN RUBBER

GOODYEAR

TUNE IN on the Goodyear program over N. B. C. Red Network, WEAF and Associated Stations

W. J. Robertson Heads Heller & Merz

William J. Robertson, formerly vice president and general sales manager of the Heller & Merz Corporation, has been elected president of that organization, it was announced today. Mr. Robertson succeeds Eugene Merz, who was president of the corporation since 1930. The change in the executive head, it was pointed out, does not mean the complete retirement of Mr. Merz from the activities of the business, as he will continue to serve in an advisory capacity. Heller & Merz corporation, which has been in business for sixty years, is one of the oldest companies in the United States manufacturing dyestuffs for the paper, paint and varnish industries.

W. J. ROBERTSON, President

Mr. Robertson started his career with Heller & Merz on March 15, 1895, and during the thirty seven years affiliation with the corporation, he devoted most of his attention to the development of the business from a sales angle. If one were to ask Mr. Robertson his business, he would immediately answer "selling goods." Prior to holding the office of vice president he served for ten years as sales manager and assistant to the treasurer. He is one of the most popular executives in the business, having an unusually large number of friends.

Mr. Robertson has long been known for his conservatism. Probably for this reason his belief that the paper industry will show improvement during the current year may be expected to carry more weight than the average expression of opinion.

Swedish Pulp Workers Strike

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 20, 1932.—Workers in the leading Swedish pulp mills on April 8 refused the Mediation Commission's wage proposals, and a strike effective April 11 was declared according to a report received here. It is stated that 17,000 workers are involved.

To Dissolve Pulp Cartel

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 13, 1932.—Dissolution of the northern mechanical pulp cartel has been decided upon, effective April 1, according to a cablegram to the Department of Commerce from Trade Commissioner Dahl, at Stockholm.

New York Trade Jottings

C. W. Goodyear and Stanton Griffis have been elected directors of the Union Bag and Paper Company, New York, to fill vacancies.

* * *

Harry P. Gould, president and treasurer of the Gould Paper Company, Lyons Falls, N. Y., was a New York visitor last week.

* * *

W. G. Mitchell, formerly executive in charge of manufacturing for Price Bros. & Co., Quebec, has been spending several days in New York.

* * *

Maurice Hoopes, president of Finch, Pruyn & Co., Inc., of Glens Falls, N. Y., and his wife, spent some time in New York last week on their way home following a pleasant vacation in the Sunny South.

* * *

Industrial Brief Case Company has been chartered under the laws of the State of New York to manufacture paper products, with a capital stock of $12,500. S. Witte, of 1440 Broadway, is the attorney.

* * *

H. H. Henrich, Inc., specialists in machinery for all printing purposes, of 200 Varick street, New York, has opened an office at 122 South Michigan Avenue, Chicago, in charge of Arthur Prausnitz. The telephone number is Wabash 3660. The Chicago office of the organization will handle all the business of H. H. Heinrich, Inc. and the Rubberprint Equipment Corporation in the Middle West States.

* * *

Douglas P. Miller, United States Commercial Attache at Berlin, Germany, who has just returned to this country, was the guest speaker at the regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry on Monday, at Allerton House, New York. Mr. Miller proved an excellent speaker and gave a first hand and illuminating account of present-day conditions in Germany, which proved of decided interest to all present. He was accorded a rising vote of thanks on the conclusion of his address.

China Buys Pulp In British Columbia

According to word from British Columbia the pulp industry in that province has benefitted indirectly from the Sino-Japanese dispute, although it has also suffered offsetting losses due to the same cause. While Trans-Pacific trade has fallen off to some extent due to exchange fluctuations, depressed markets, high insurance rates and the general economic disability of the Far East, the fact that China's boycott of Japanese goods applies to pulp and paper has compelled China to come direct to Canada for its pulp. Under normal conditions Japan supplies most of China's paper, but since the boycott became effective these shipments have been almost entirely eliminated. China has few paper mills but those that she has are kept working overtime on British Columbia pulp. Several shipments have been made direct to Shanghai in recent weeks by the British Columbia Pulp and Paper Company, Vancouver, marking an entirely new trade development. British Columbia news print mills invaded the Shanghai paper market some months ago, and are continuing to ship to that port, although in reduced volume owing to the general dislocation of trade following hostilities. Scandinavian competition continues on the Pacific Coast.

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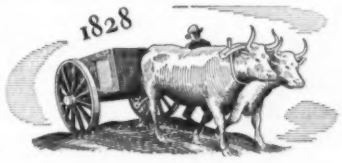
92-inch Undercut for finishing room and paper mill work

The Smith & Winchester Undercut trimmer cuts a thousand sheets or twenty . . . wide sheets or narrow . . . tough stock or soft, *without slipping*. There is no gamble to it.

A clamp developed by Smith & Winchester engineers *automatically* gives the *one* correct pressure to hold on the cut without slippage. It is not a friction device. It eliminates frequent adjustments — increases production — saves power — reduces spoilage and all unnecessary clamp marks.

Get the facts — today. Send for bulletin — no obligation.

MAKERS: *Fourdriniers, cylinder and wet machines; bindersboard machines; paper bag machines; undercut trimmers; Rainstorm shower pipes; slitters and calenders; reels and winders; rolls (bronze and wood); Jordans and Jordan fillings; stuff and fan pumps; castings from our own or customer's patterns.*



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385

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Lynchburg, Va.—The Rockford Fibre Container Company, Rockford, Ill., is said to be planning the establishment of a new plant at Lynchburg, for the manufacture of a line of fiber boxes and containers. The initial plant will be equipped for a capacity of about 100,000 box units per day, and is reported to cost over $50,000, with equipment. It is proposed to use chestnut pulp for raw material, securing this product from the mill of the John H. Heald Company, Lynchburg.

Syracuse, N. Y.—The Lowman Folding Box Corporation, 736 North Clinton street, manufacturer of paper boxes and containers, has concluded negotiations for the purchase of part of former local plant of the American Piano Company. The structure will be remodeled and improved, and will be occupied by the purchasing company in the near future. It is understood that increased production will be carried out at the new location.

Chicago, Ill.—The Vortex Cup Company, 421 North Western avenue, manufacturer of sanitary paper cups, is holding to regular production schedule, close to normal, with sizable working force. It is expected to continue on this basis for some time to come. Since the beginning of the fiscal year, October, company volume has been running below that of the corresponding period a year ago.

Joliet, Ill.—The Continental Wall Paper Mills, Inc., 1606 Collins street, recently organized with a capital of 5,000 shares of stock, no par value, is said to be planning operation of local plant for the production of wall papers. The new company is headed by Frank J. Kelley, Jr., and Ross H. Buckwalter, both of Joliet.

Alpena, Mich.—The Fletcher Paper Company, manufacturer of fiber stocks, is considering increased production schedule at its local mill, speeding up output, with close to normal working quota, at early date. Harry Fletcher is vice-president and general manager.

Indian Orchard, Mass.—The Fiberloid Corporation, manufacturer of fiber products, is completing construction of a one-story extension on Worcester street, and will use for storage and distributing service.

Plattsburg, N. Y.—The Berst-Forster-Dixfield Company, Grand Central Terminal, New York, is said to be making alterations and improvements in the local mill of the Saranac Pulp & Paper Company, Inc., recently acquired from receiver of that organization, and will operate under the direction of the Norstrand Manufacturing Corporation, Plattsburgh, an affiliated organization, whose mill is in the vicinity of the Saranac plant. It is understood that the purchasing company will soon perfect plans for a general expansion program at the acquired mill, with installation of equipment for considerable increase in former capacity. The Berst-Forster-Dixfield Company has recently built a new addition to its mill at Dixfield, Me.

Edgely, Pa.—The Paterson Parchment Paper Company, 33 Eighth street, Passaic, N. J., is beginning foundations for proposed new addition to mill at Edgely, near Bristol, Pa., recently referred to in these columns, and experts to begin superstructure at early date. The new unit will be two-story, 90 x 200 feet, designed to provide for considerable increase in present output. It is reported to cost over $75,000, with equipment. General contract will be carried out by the F. G. Pittet Construction Company, 9 Colt street, Paterson, N. J.

San Francisco, Cal.—The San Francisco Paper Company, 263 Seventh street, dealer in paper products of various kinds, is operating on a capacity distributing basis, and reports a maximum number of workers at its storage and distribution plant. The company advanced the wages of employes in May, 1931, and again last January, with immediate plans for allowing an alternate five-day week to operatives through the summer period. Rodman C. Pell is president.

Philadelphia, Pa.—The Philadelphia Quartz Company, 121 South Third street, Philadelphia, has perfected plans for a branch plant at Brantford, Ont., for the manufacture of different types of silicates of soda used in the pulp and paper trades. The new plant will be used for furnishing requirements for Canadian mills.

Newark, Del.—The Continental-Diamond Fibre Company, manufacturer of fiber products, is arranging for a change in company capitalization, with reduction in stated capital of each share of stock to $5.00; it is also proposed to amend company certificate of incorporation to change shares of stock to $5.00 par value, instead of no-par value, as at present time. Plant operations are said to be on a curtailed schedule, with close to normal working force.

Cleveland, Ohio—The Industrial Rayon Corporation, West 98th street and Walford avenue, has begun the construction of a new addition to its mill, recently referred to in these columns, consisting of a one-story unit, 80 x 430 feet, reported to cost close to $150,000, with machinery. The company has perfected a new cellulose transparent wrapping material, and will use new plant structure for this line of output. It is reported that other buildings will be erected at a later date. The George A. Rutherford Company, 2725 Prospect avenue, Cleveland, is general contractor.

Chicoutimi, Que.—The Chicoutimi Pulp Company, Chicoutimi, is said to be arranging for the early resumption of operations at its local pulp mills, and has concluded negotiations with the Provincial Government for the exemption from water tax for a period of five years. The plants give employment to over 1500 men, and it is expected that this working quota will be engaged as soon as the mills start up.

Corner Brook, N. F.—The International Power and Paper Company of Newfoundland, Ltd., resumed produc-

Call in a WALDRON engineer

to help you plan an efficient layout for paper converting

One after another, progressive converting plants are taking the necessary steps to accomplish two definite objectives in their operations;—namely, improved quality of product with an accompanying reduction in the unit manufacturing cost. Keen plant executives and managers realize that future profits will be secured from these sources. How to attain both objectives is obviously a problem for equipment engineers of long specialized experience such as that accumulated by the Waldron organization from 104 years of service.

Providing new or more popular surface effects to products, speeding up operations, reassembling equipment units to reduce number of units required or to release valuable floor space for other uses —these are some of the ways by which Waldron engineers are solving the problem for plants with an eye on the future. Under prevailing competitive conditions, it will be to your advantage to secure their recommendations for your plant. Inquiries of any nature are invited.

Printing Machines
Embossing Machines
Gumming Machines
Impregnating Machines
Coating Machines
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Festooning Machines
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WALDRON

Paper Converting Machinery

tion at its mill on April 7, following a wage difference with a number of employes, during which operations were curtailed.

Montreal, Que.—Despite financial difficulties, the Beauharnois Power Corporation, Montreal, affiliated with Canadian pulp and paper interests, is planning to continue construction work on its new hydroelectric power project on the St. Lawrence River, designed for an ultimate capacity of 500,000 horsepower. The output will be used extensively by pulp and paper mills in this district. The plant will require a number of months for completion.

New Company

Pittsburgh, Pa.—The D. O. Cunningham Sales Company has been incorporated with a capital of 500 shares of stock, no par value, to deal in paper products, including paper boxes, cartons, tubes and other containers. The incorporators are James H. Boyd, 1140 Cornell street, Northside; George B. Mullin, 901 South avenue, Wilkinsburg, Pa.; and L. S. Cunningham, Sr., 300 South Fairmont street, Pittsburgh. The first noted has been elected treasurer.

Program for Northwest Meeting

The following program has been arranged for the meeting of the Northwest Division of the American Pulp and Paper Mill Superintendents Association at Appleton, Wis., Saturday, May 7.

Morning—Registration at Hotel Conway

9.30—Meeting at Institute of Paper Chemistry—Dr. Otto Kress, Chr. Aims & Purposes of the Institute, by Dr. Otto Kress. Chemistry of Cellulose, by Dr. Harry F. Lewis. Colloidal Aspect of Pulp & Paper Making by Dr. Benj. F. Roland. Inspection of Building & Equipment.

The Institute of Paper Chemistry, connected with Lawrence College, is handling the entire morning program. You will see and hear something worth while every minute you attend. Be on time.

Afternoon—Stag Luncheon at North Shore Country Club at 12.30 p. m. followed by Golf Tournament, Cards—Fun—Gab.

The North Shore Country Club located a few miles from Appleton, on the north shore of beautiful Lake Winnebago, is ideally located for an afternoon of sport and pleasure.

Evening—6.30 p. m.—Joint Banquet—Ladies and Men at Hotel Conway. Presiding Chairman—H. A. Skinner, Toastmaster—R. M. Radsch, Speaker—Dr. Henry Wriston, President Lawrence College. Welcome—John Goodland Jr., Mayor of Appleton. Greetings—Roy Kelly, National President; Allen Abrams, President of TAPPI; Fred Boyce, "Father of Supt's Assn." Question Box.

Entertainment & Special Features.

LADIES ENTERTAINMENT

Morning—Registration at Hotel Conway.

Morning free for shopping, sight-seeing tours. 12.30 p. m. Noon Luncheon—Hotel Conway. Bridge in the Afternoon.

Evening—6.30 Joint Banquet at Conway Hotel.

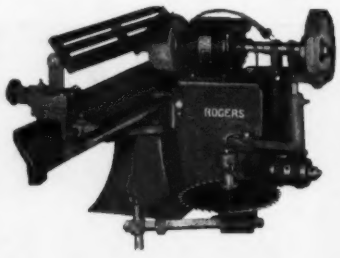
Theater Party after banquet. 10.30 p. m. Dancing party at one of the popular places near Appleton, will be arranged to follow the banquet.

Northwestern Division Officers: Chairman, Harold A. Skinner; Vice-Chairman, Frank Timmerman; Secretary & Treasurer, Wallace Shymanski.

Convention Committee Chairmen: R. M. Radsch, General Chairman, Alfred Agrell, Peter E. Jones, Dr. Otto Kress and W. E. Buchanan.

New Rogers Electric Utility Grinder

Samuel C. Rogers & Co., of 191-205 Dutton Avenue, Buffalo, N. Y., are sole manufacturers of a new substantial combination bench grinder, known as the "New Rogers Type "K" Electric Utility Grinder," especially designed for plants requiring an efficient yet inexpensive machine. The new grinder is equipped with a table for face or surface grinding, knife or die grinding, also a tool rest for edge tool grinder, an attachment for sharpening circular saws up to 22 inches in diameter; on special order, it is equipped with 10 inch disc grinding wheel with adjustable table; also on special order with a flexible shaft with outer bearing for housing emery or polishing wheel. This grinder will grind knives flat or concave bevel for any desired angle or square edge.



A special feature of the new grinder is the Table Stop. The operator can stop movement of the table at any time by placing the lever in a neutral position without stopping the grinder entirely. This feature permits close, accurate work with the operator in complete control of the machine. The table can be moved the entire length or traverse and stopped at the will of the operator.

The base is column cored and cast in one piece. Bed, slide and knife table are rigidly mounted. Height to spindle is 18 inches. Feed works are within the base, giving the carriage even traverse and smooth reversing, without vibration. Reversing mechanism is adjustable to suit the length of knife being ground. Cross feeding mechanism consists of two hard wheels at the end of slide. Knife table can be locked in any position desired. Circular saw carriage is adjustable to extend any desired hook or tooth shape. Hand feed of saw holder to and from grinder wheel with positive stop adjustments.

The regular equipment comprises ⅓ h.p. (or larger on special order) ball bearing, single phase motor with automatic take up and thrust, toggle switch, cord and plug, internal belting, 6 inch x 3 inch cup grinding wheel, 8 inch x ½ inch tool grinding wheel, 8 inch x ¼ inch saw grinding wheel, saw gumming attachment and tool rest.

Boston Paper Market Spotty

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., April 18 1932—Movement of paper in the wholesale market here continues in average amounts. A better state of mind among the trade and their customers prevails, although business is still rather spotty. Bonds and ledgers and papers for advertising purpose are in fair demand, but actual placing of orders, in some quarters, at least, is rather slow. Some of the manufacturers of fine papers expect more activity during this latter half of the month. Greater interest in fine writing papers has developed during the week. Demand for wrapping paper has improved somewhat in the last few weeks, but at best is hardly better than fair. The seasonal demand for specialties, such as drinking cups, paper napkins, etc., continues. Boxboard is in fair demand. Generally speaking, there is little activity in the paper stock market. In some lines, however, there is more movement. Over issue news and old newspapers are readily absorbed at current prices. The same is true of roofing rags, in which there is a substantial movement.

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Henry J. Berger
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Ronald G. Macdonald
Editor Technical Section

Herbert J. Laughton
Associate Editor

Thomas J. Burke, C. A.
Editor Cost Section

Reginald Trautschold, M. E.,
Power Engineering Consultant

Lynne M. Lamm, *Washington Correspondent*

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NOW IS THE TIME TO ADVERTISE

The Scott Paper Company of Chester, Pa., had sales of $8,816,410.87 for 1931, which was an increase of $333,049.61 over the preceding year. According to Mr. Thomas B. McCabe, president of the company, this fine record was made possible largely through the increased advertising which the company has been doing. In Mr. McCabe's judgment, advertising just now is a more valuable factor than ever among the means that may be legitimately employed in stimulating business. It not only increases current business, he believes, but is a splendid investment as it effectively builds business for the future. Judging from the record of the Scott Paper Company, Mr. McCabe's views are certainly entitled to a great deal of respect.

In giving the reasons for the success of the Scott Paper Company, Mr. McCabe in part says:

"In any marketing operation there are three 'levers' which the 'navigator' can use in carrying on his work and directing the company's progress.

"The first of these, which I believe is of paramount consideration is the quality of products manufactured. Durnig 1930 and 1931 we have put more emphsais on the quality than ever before. Our quality standards have been raised. The consumer today is more discriminating than ever before and we must be more alert than in the past.

"The second of the three levers is costs and prices. Our endeavor is first to secure the finest quality modern manufacturing methods can produce and then take advantage of massed production methods to give this quality at a lower cost.

"The third lever is advertising. It is our opinion that in times like these, it is time to 'turn on the juice' in advertising. Today we are spending more in newspaper and other advertising than ever in the history of the business. We are spending this money for two reasons: for the immediate returns at present and because we believe that advertising at the present time will bring even greater returns in future years. I believe the finest investment that can be made is advertising for by ploughing your dollars into it you reap returns today and build business for tomorrow."

The Scott Paper Company is the world's largest manufacturer of toilet tissue and tissue paper towels. The large plant at Chester is constantly kept thoroughly up to date and modern in every detail of its equipment.

PAPER EXPORTS INCREASE

February exports of paper and paper products, with a total valuation of $1,448,278, record of an increase of 10 per cent over the preceding month, but compared with 12 months ago a 20 per cent decrease, according to the Paper Division of the Department of Commerce. Exports of several items were encouragingly higher than during the opening month of the year—box board (paper board and straw board) showing an increase of 257 per cent, vulcanized fiber sheets, strips, rods and tubes, 90 per cent; surface coated papers, 85 per cent; boxes and cartons, 33 per cent; paper hangings (wall paper), 20 per cent, while slight increases took place in wrapping paper, paper towels and napkins and sheathing and building paper. On the other hand, a rather heavy falling off is shown in exports of news print, toilet paper, bristols and bristol board, wallboard of paper or pulp, filing folders, index cards and other office forms and papeteries, the losses ranging from 33 to 50 per cent, while moderate decreases are noted in book paper, not coated, other writing paper, cash register and adding machine paper, other paper board, and slight decreases in envelopes, cover paper, greaseproof and waterproof papers, overissue and old newspapers, blotting paper, paper bags and fiber insulating board or lath.

Contrasted with a year ago, the following increases are registered: Vulcanized fiber sheets, strips, rods and tubes, 52 per cent; box board (paper board and straw board), 80 per cent, overissue and old newspapers, and surface coated papers, each 23 per cent and greaseproof and waterproof papers, 20 per cent. The decreases were very heavy in news print, bristols and bristol board, sheathing and building paper, fiber insulating board or lath, papeteries, paper hangings, cash register and adding machine paper, blotting paper, other paper board, paper towels and napkins, tissue and crepe papers and book paper, not coated, compared with a year ago.

With regard to paper base exports in February, they were valued at $254,727, a decrease of 8 per cent from January exports and 45 per cent from those of a year ago. Pulpwood exports were again on the ascending scale, being valued at $32,565, there was an increase of 90 per cent over January and an increase of 108 per cent over February, 1931. Sulphite wood pulp also made a good showing over a year ago, being 85 per cent higher, but showed a decrease of 21 per cent over the preceding month, while exports of soda wood pulp declined very heavily, both as compared with the corresponding month last year and

with those of the preceding month. Rags and other paper stock were high, showing an increase of 50 per cent over January and only a slight decline over a year ago.

Imports of paper and paper products in February were valued at $6,900,617, representing a decrease of 22 per cent from those of January and a decrease of 30 per cent from those of a year ago. This comparatively low figure was due primarily to lighter incoming shipments of news print from Germany, Norway and Canada. The heavily increased shipments to this country of greaseproof and waterproof papers, other wrapping paper, writing paper and envelope combinations, surface coated papers and tissue, similar papers and uncoated paper, decorated or embossed, represented the most interesting feature of the returns.

No great difference is shown in the total February imports of paper base stocks, either as compared with the same month last year or the preceding month. They were valued at $6,678,588. Individual items, however, fluctuated considerably in most instances. Slight increases over January took place in imports of unbleached mechanically ground wood pulp, bleached sulphite wood pulp and rags for paper base stock, while imports of bleached mechanically ground wood pulp and bleached sulphate pulp were considerably higher. Both unbleached sulphite pulp and unbleached sulphate pulp imports were low compared with January.

Confer Regarding Mill Wages

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., April 18, 1932.—John P. Burke, President of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers, with other labor officials returned this week from the convention of paper mill unions held at Montreal. The gathering was brought about through a disposition on the part of manufacturers to revise wages and it is understood that a further cut is sought. During the past year wage reductions ranging from five to ten per cent became effective in virtually all plants and a resolution was adopted at the conference as being opposed to any further revisions.

Announcement was made that conferences are to be arranged with the various concerns within the next few weeks inasmuch as most of the agreements expire early next month. Mill men have not expressed their opinions as yet but it is understood that the majority favor a further revision. Officials of the International organization are now busy mapping out a series of conferences to be held with the manufacturers in connection with new wage and working agreements.

Swedish Pulp and Paper Exports

WASHINGTON, D. C. April 20, 1932.—Exports of pulp and paper from Sweden during February were generally larger than during the corresponding month of last year, although pulp shipments show a tendency under those recorded for the preceding month, according to reports to the Department of Commerce. February shipments comprised 6,680 metric tons of ground wood, 11,755 tons of bleached sulphite pulp, 31,137 tons of unbleached sulphite, 2,349 tons of sulphate pulp, 5,218 tons of boards, and 41,777 tons of paper. Included in this last item were 19,881 tons of news print and 17,713 tons of wrappings.

Tucker Opposes Wood Pulp Tariff

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., April 19, 1932—E. C. Tucker, vice president of the Chemical Paper Manufacturing Company of this city, has addressed an appeal to Congressman Allen T. Treadway, of this district, to help keep the door open for importations of wood pulp from other countries.

A bill is before Congress asking for duties on imported pulp. He says that if this duty is imposed it will mean further curtailment of the manufacture of paper in this city.

There are two types of paper mills, self contained mills which make their own pulp and convert it into paper, and plants which buy wood pulp for conversion. About 85 per cent of the wood pulp made in this country is converted into paper by the mills that make it. The rest is the product of mills that do not make paper.

Senator Jones has announced that he will propose a flat tariff duty to replace the proposal for a rate which will equalize the currency differential. If this move is successful, Mr. Tucker says, the local mills, none of which make their own pulp, will be at an unbearable disadvantage with their competitors who have their own raw material supply.

Had the proposed differential been in effect on January and February American paper mills would have had to pay $4,604,910, which would have had to be passed on to the consuming public. This would place the Holyoke mills in poor shape to compete with the mills having their own self-contained plants.

"Any tariff on wood pulp will improve the business of the self-contained mills in this country because it will make available to them much of the business now being made in converting mills. These converting mills are long established businesses, many of them older in point of years than self contained mills. Our business in Holyoke dates back to 1880. It is almost unbelievable that Congress should seriously consider passing any bill, the result of which would be to take business away from one type of mill and place it in the hands of another type," Mr. Tucker wrote in his appeal to Congressman Treadway.

Binders Board Standards Postponed

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 13, 1932.—Harry H. Steidle, Division of Trade Standards, Bureau of Standards, has announced that further development of the commercial standards for binders board has been postponed for the time being.

On October 14 of last year a general conference of manufacturers, distributors and users of binders board was held in New York City under the auspices of the Bureau of Standards to arrive at a mutually satisfactory commercial standards specification for binders board.

Opposition by the Employing Bookbinders of America to the specification as tentatively proposed by the Binders Board Manufacturers Association resulted in the formation of a joint committee composed of members from these two organizations who were charged with the development of a specification that would be referred back to the entire industry for consideration as a commercial standard. One meeting of the joint committee was held and while material progress was made, no final agreement has thus far been reached. The adoption of the standard has therefore been held up for the time being.

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

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Machinery

Relations on a Paper Machine with the Use of Saturated and Super-Heated Steam. W. Steader, Wochbl. Papierfabr. 62, No. 42:991-95 (Oct. 17, 1931).—The author refutes some of the statements of the article with the above title by Kaiser. By means of numerous equations and curves the following facts are disputed, theoretical calculation of the increase in heat flow with increasing super heat, correction of theoretical errors, proof for the errors in measuring the wall temperatures, etc.—J. F. O.

Regulating Accuracy of the "Haspa" Stock Consistency Regulator. Martin Buttner. Wochbl. Papierfabr. 62, No. 41:970-972 (Oct. 10, 1931).—Description of the regulator together with its application in certain cases.—J. F. O.

Insulation of Digesters. Otto Th. Koritnig, Zellstoff Papier 11, No. 11:622 (Nov., 1931).—The various materials used in the covering of digesters for the prevention of loss of heat are evaluated. The heat saved by such a covering is shown by calculations.—J. F. O.

Concerning Safety Valves for Pulp Digesters. Sembritzki. Wochbl. Papierfabr. 62, No. 38:07-909 (Sept. 19, 1931).—The construction of a new safety valve made of V2A or V4A steel is described. The valves operate without any gases leaking. The gases and steam which do escape are recovered. It is so designed that pulp cannot come into contact with the parts of the valve.—J. F. O.

Process for the Production of Pulp by Cooking Under Pressure the Fiberous Materials of Plants. Metallgesellschaft A. G. Frankfurt a. M. Ger. pat. 526,835 (Dec. 21, 1929).—The highest part of the digester, in which the material is first introduced, is kept cold, so that the gases occurring in the hottest part of the digester is again absorbed in the coldest part. According to claim number 2 the liquor or the liquor and the pulp is kept in continual or intermittent circulation through the digester.—J. F. O.

Device for Pulp Digesters with a Pump and Circulation Lines Within the Digester. E. Morterud, Torderoed. Nor. pat. 49,152 (April 9, 1930).—The liquor circulation lines within the digester of two adjacent digesters are connected with each other at two points, that is by liquor inlet and outlet, which are connected to the same outside preheater. Valves are arranged within the digester so that the liquor can be circulated to the outside preheater, partially or entirely.—J. F. O.

Preventing Breaks on Paper Machines. Harold R. Rafton assignor to Raffold Process Corp. U. S. pat. 1,821,849 (Sept. 1, 1931).—In the manufacture of paper with an alkaline filler, with running or a furnish containing alkaline filler and fibrous material including old paper stock, the formation of soft lumps is substantially avoided by including in the furnish only stock which is substantially free from flotation agent.—A.P.-C.

Suction-Box Covers. Arthur J. Morin assignor to Rice Barton and Fales, Inc. U. S. pat. 1,822,363 (Sept. 8, 1931).—Suction-box covers are formed of wood impregnated with a lubricant such as tallow.—A.P.-C.

Suction Roll for the Dewatering of Paper Stock, Pulp and Ground Wood. Julius Stephansen, Drammen, Norway. Ger. pat. 517,661 (April 27, 1926).—A wire cloth passes upward through a suspension of stock, and by the difference in head, stock is made to form on the wire. This wire with the stock on it then passes over the circumference of a suction roll where a great quantity of water is removed.—J. F. O.

Centrifugal Pulp Screen. Centrifugal Engineering and Patents Corp. Fr. pat. 712,081 (Feb. 25, 1931).—The efficiency and output of a centrifugal screen is increased by providing a second screening cylinder concentric with and inside the main cylinder, the inner cylinder remaining free from deposited fiber during operation of the machine.—A. P.-C.

Sliver Screen or Knotter for Ground Wood, Pulp and Similar Materials. R. E. Wagner, Karlstad. Swed. pat. 71,292 (July 6, 1925).—The drum is provided with grooves on its outside circumference.—J. F. O.

Method for Fastening Screen Plates to the Front Deckel of a Revolving Knotter for the Manufacture of Pulp and Paper. Carl Nebrich, Ger. pat. 517,659 (Aug. 21, 1929).—J. F. O.

Method and Device for Putting on a Wire on a Fourdrinier

Machine. Firma J. M. Voith, Heidenheim. Ger. pat. 517,660 (Nov. 13, 1925).—J. F. O.

Process and Device for the Preparation of Endless Metal Cloths for the Manufacture of Paper. Carl Kurz-Hahnle, Reutlingen. Ger. pat. 522,657 (Feb. 3, 1928).—The side of the wire carrying the stock is made smooth by being drawn. According to claim number 2, a stretching machine is used for this, in which a drawing roll with a coarse surface is provided near the two stretch rolls.—J. F. O.

Feeding Webs. C. A. Dickhaut. Brit. pat. 348,276 (March 10, 1930).—Apparatus for transversely guiding a travelling web of paper comprises two parallel straight rolls, under and over which the web passes and which are spaced apart on a frame which is movable about a central pivot under the control of a feeler device engaging the edge of the web. The frame is connected by a rod to a diaphragm forming one side of a chamber which is connected to a vacuum pump and also to a valved nipple, the valve carrying fingers which engage the edge of the web. If the latter deviates to either side, the corresponding movement of the fingers causes the valve to admit more or less air to the chamber, resulting in a movement of the frame in a direction to restore the web to its correct path.—A.P.-C.

Rationalization and Reconstruction of Paper Machines. I. Shuvlyakov and V. Vlasov. Bum. Prom. 10, No. 1:14-32 (1931); C. A. 26:595.—Recommendations are given for more efficient utilization of existing factory equipment based on experimental investigation for production of various grades of paper.—C. J. W.

Work of the Cardboard Machine. A. Malinovskii. Bum. Prom. 10, No. 2:52-57 (1931); C. A. 26:598.—The methods of pouring, dehydrating, pressing and drying of cardboard pulps and the physical properties of the resulting cardboard are discussed.—C. J. W.

Balanced Fourdrinier Shake. Anon. Paper Trade J. 93, No. 24:50 (Dec. 10, 1931).—A brief discussion of the principle and advantages of the balance fourdrinier shake, whereby a rolling motion is given to the stock as it passes over the apron and the breast-roll end of the wire so as to disarrange the fiber flow in the lower layer of stock.—A.P.-C.

Hardness Tester for Rubber Rolls in the Paper Industry. Wochbl. Papierfabr. 62, No. 35:835 (Aug. 29, 1931).—A German apparatus for the testing of the hardness of rubber rolls as described operates on the same principle as the American instrument of Pusey and Jones, but is handier and lower in price.—J. F. O.

Performance of a Mill Pyrometer. Frank D. Libby. Pulp Paper Mag. 32:1329 (Dec. 3, 1931).—Periodic testing of the surface temperatures of all the drier rolls with a Thwing pyrometer has permitted of: (1) producing more uniform drying through the detection of poorly functioning driers: (2) enabling to establish a temperature-gradient curve on the drier sections. (3) securing maximum production commensurate with moisture and quality standards for the finished paper.—A.P.-C.

Device on Press Rolls for Ground Wood, Pulp and Similar Substances. R. E. Wanger, Karlstad, Sweden. Nor. pat. 49,186 (March 7, 1930).—The press rolls are provided with diagonal grooves on the surface, on whose deepest places one or more raised portions of such form and size are fixed that does not reach the circumference of the roll. The width of the grooves are from 3 to 9 mm.—J. F. O.

Observations Over the Action of a Pair of Steel Rolls on Various Papers. Otto Ferdinand Gunther. Papier-Fabr. 29, No. 19:290-299 (May 10, 1931).—Because of mechanical errors, the paper micrometer is displaced by the optical micrometer. The author then derives by means of numerous equations, an equation in which pressure on papers of various bulk is determined.—J. F. O.

Explosions of Drier Cylinders. Wochbl. Papierfabr. 62, No. 35:834 (Aug. 29, 1931).—Description of the explosion of a drying cylinder in a French mill. Drying cylinders should be heated slowly and only when they are revolving.—J. F. O.

Cone Shaped Save-All for the Clarification of White Water, especially from Paper, Pulp and Ground Wood Mills. Ernst Buchhaas, Austria. Ger. pat. 518,063 (June 5, 1928).—The white water to be clarified runs down through a number of cone-shaped compartments, each above the other and all opened at the bottom. The clarified water rises underneath each cone and is drawn away through pipes at the top of each cone compartment.—J. F. O.

Increasing the Capacity of Funnel Shaped Save-Alls. A. H. Popp. Wochbl. Papierfabr. 62, No. 46:1077 (Nov. 14, 1931).—Construction and discussion of clarifying funnel.—J. F. O.

Multiple-Motor Drive for Paper Machines. Siemens-Schuckertwerke Aktiengesellschaft. Fr. pat. 712,486 (March 3, 1931).—The invention consists in that the regulating devices of the individual motors are connected only during the regulating operation to a continuously rotating shaft which supplies the power required to operate the regulators.—A.P.-C.

Electrical Drives for Paper Machines. Taus. Wochbl. Papierfabr. 62, No. 48:1118 (Nov. 28, 1931).—The author investigates the suitability of various motors as to a source for heat and power in the paper mill and talks especially of the advantages of "instant regulator."—J. F. O.

Supercalender Drives. H. Hunt. World's Paper Trade Rev. 96, 1735-1742, 1776, 1778, 1819-1828, 1907-1914 (Nov. 20-Dec. 4, 1931).—A discussion of the characteristics of the various power units and transmission gears now available for calender driving, and of the manner in which they should be taken into account when designing supercalender drive installations.—A.P.-C.

Draw-Regulating Device for Paper Machine Drives. Siemens-Schuckertwerke Aktiengesellschaft. Fr. pat. 712,073 (Feb. 25, 1931).—The mechanisms for regulating the draw between successive sections of the machine are mounted directly on the shafts of the sectional motors.—A.P.-C.

Chain Drives. Reginald Trautschold. Paper Trade J. 94, No. 1:45-49 (Jan. 7, 1932).—A discussion of the merits of chain drives and of the conditions under which they should be used.—A.P.-C.

Positive Drives in the Paper Mill. W. H. Kinkaid. Paper Mill 49, No. 50:4, 22 (Dec. 12, 1931); Paper Trade J. 93, No. 24:33 (Dec. 10, 1931).—A brief description of the S-8 and S-10 Link-Belt herringbone speed reducers as constructed for jordan and claflin refiner drives.—A.P.-C.

Electrical Driven Paper Machines and Parallel Regulating System. K. Rupprecht. Wochbl. Papierfabr. 62, No. 39:926 (Sept. 26, 1931).—Answer to a former article by W. Stiel and A. Haak, Wochbl. Papierfabr. 62, No. 23A (1931). The assertion that the mechanical regulation is superior to the electrical is refuted.—J. F. O.

Mills

New Method for the Heating of Large Spaces. Wochbl. Papierfabr. 62, No. 39:924 (Sept. 26, 1931).—It is not advisable or economical to heat large spaces with radiators, heating coils and similar apparatus. It is far better to circulate warm air. There are two systems for doing this, one is the central heating coil and blowers which distribute the warm air throughout the building through air conduits and the other newer system is to have individual heating blower units placed in advantageous locations. This article describes in detail a system called "Thermone" using the latter principle.—J. F. O.

Prevention of Severe Damage to the Buildings in a Paper Mill. Max Georg Mutterlein. Wochbl. Papierfabr. 62, No. 46:1075-1076 (Nov. 14, 1931).—The destruction of concrete by chlorine and acids is discussed. By the use of a special mixture of cement this damage can be prevented. Several cement mixtures are given.—J. F. O.

Artificial Weather in the Paper Industry. Fritz Hoyer. Papier-

Fabr. 29, No. 19:377-380 (May 10, 1931).—After discussing the need of controlled humidity and temperature regulation in paper mills and printing plants, the author describes an apparatus which eliminates troubles due to change in humidity, etc.—J. F. O.

Thermal Insulation Pays Well. Reginald Trautschold. Paper Trade J. 93, No. 24:45-49 (Dec. 10, 1931).—The advantages of proper thermal insulation of piping and of mill roofs are illustrated by means of examples taken from existing installations in pulp and paper mills.—A.P.-C.

Air Conditioning. W. G. Schlichting. Paper Mill 54, No. 49: 14, 16 (Dec. 5, 1931).—A discussion of the effects of variations in atmospheric moisture on paper, the necessity for air conditioning in press rooms and the temperatures and humidities which should be maintained, the necessity of co-operation between the paper maker, printer, lithographer, and air-conditioning engineer to establish standard operating conditions in all press rooms, and the necessity for a constant temperature and humidity room in every paper mill laboratory together with a description of the equipment required and results which may be expected.—A.P.-C.

Mill Operation in Canada. R. V. Holland. Paper Mill 54, No. 49:5, 9-12 (Dec. 5, 1931).—An outline of power applications in modern, progressive, Canadian newsprint mills, based on the author's personal experience in the Three-Rivers mill of International Paper and his visits to other mills.—A.P.-C.

Effect of New Welding Code on Process Industries and Its Proper Application. F. G. Sherbondy. Paper Trade J. 93, No. 24:18, 20 (Dec. 10, 1931); Paper Ind. 13:1223-1224 (Jan., 1932).—A brief discussion of the importance of the proper interpretation of the three classes of welding permitted in the A.S.M.E. welding code, and of the necessity or otherwise of stress relieving in welded pressure vessels.—A.P.-C.

Maintenance and Up-Keep Painting in the Paper Mill. C. C. Bliel. Paper Trade J. 93, No. 22:41-43 (Nov. 26, 1931).—A brief discussion of the best types of paints to use for various purposes in pulp and paper mills.—A.P.-C.

The Steam and Electricity Situation in the Paper Mill of Van Gelder Zonen in Velsen. O. Graef and J. Moller. Zellstoff Papier, 11, No. 9:529-531 (Sept., 1931).—A description of the entire system is given along with numerous facts concerning the various units.—J. F. O.

Pneumatic Installation for the Conveyance in the Pulp and Paper Industry. H. Dietrich. Papier-Fabr. 29, No. 36:649-651 (Sept. 6, 1931).—After an explanation of the difference between air conveyance and the real pneumatic conveyor, the author discusses the application of the latter in the pulp and paper industry for the conveyance of wood chips, coal, ashes, and the material remaining after the roasting of iron pyrities. An example is given for the cost of such an installation for the conveyance of wood chips.—J. F. O.

Pneumatic Conveyors in the Pulp and Paper Industry. Hubert Kienzl, Papier-Fabr. 29, No. 47:743-747 (Nov. 22, 1931).—The author investigates the use of low pressure and high pressure blower installations for the conveyance of raw materials, as well as paper stock and pulp. Compressed air installations are used mostly in the pulp and paper industry. High pressure lines are more economical than low and hence the pipe lines are smaller in diameter. An installation for wood chips, for 20 tons per hour capacity that is equal to 50 cubic meters of wood, is described in detail, also an installation for pulp conveyance. The power consumption is only ¼ so large with high pressure as with low pressure installations of the same capacity.—J. F. O.

Acid Proof Stone Linings in the Pulp Industry. L. Kogel. Wochbl. Papierfabr. 62, No. 40:949-51 (Oct. 3, 1931).—The author does not believe in the popular conception that acid proof stone linings prevents the acids from coming in contact with the steel shell. Through a physical chemical process the acid penetrating through the pores is prevented from acting on the steel shell because of capillary action. The porosity of acid proof brick, based on the amount of water it takes up to its own weight, varies between 0.5-1.5 per cent for ordinary acid proof brick to 4.2-4-7 per cent for the best quality—J. F. O.

Power House

Problem of Utilization of Local Sources of Fuel. M. Pyaduishev. Bum. Prom. 10, Nos. 5-6:19-21 (1931); C. A. 26:568.—The utilization of low grades of coal, such as peat and bituminous shale, is proposed for the paper industry whenever found in the vicinity of the plants.—C. J. W.

Sampling and Analysis of Coal. Anon. Paper Trade J. 94, No. 1:37-44 (Jan. 7, 1932).—A description of the tentative official TAPPI method which is essentially the A.S.T.M. standard D21-16 and D271-30, somewhat simplified to make it more concise without changing any essential details.—A.P.-C.

Coal Economy in Paper Making. Anon. Papeterie 53; 1389-1394 (Nov. 25, 1931).—An outline of the advantages of air-preheaters, illustrated by a description of an installation in a Parisian coated paper mill.—A.P.-C.

Power Plant Modernization Records. Reginald Trautschold and H. J. Prebensen. Paper Trade J. 93, No. 26:41-45 (Dec. 24, 1931).—A discussion of the importance of periodic stock-taking illustrated by a description of the new power plant serving the Munising Paper Co.—A.P.-C.

Mercury Vapor-Steam Turbine. Anon. Paper Maker & Brit. Paper Trade J. 82, No. 5: TS11-TS12 (Nov. 2, 1931).—A brief description of the construction and performance of the 10,000-Kw. mercury vapor-steam turbine generator unit installation of the South Meadow Station, Hartford, Conn.—A.P.-C.

Carrying Over of Water from the Boilers. H. Vorkauf. Papier-Fabr. 29, No. 22:339-340 (May 31, 1931).—The moisture content of the steam in relation to the load was studied, and the related connection between the evaporation surface, steam space, and steam capacity.—J. F. O.

Separate Costs for Power and Heat in a Paper Mill. G. Matthaie, Berlin-Siemensstadt. Papier-Fabr. 29, No. 35:573-578 (Aug. 30, 1931).—By means of numerous curves and other data the author has shown how the division of costs may be made in a paper mill, such divisions, as boiler house control, power production, as well as the division of costs for machines which are used both for power and heating purposes.—J. F. O.

High Pressure Hot Water, the Rational Heat Carrier of the Paper Mill. H. Stenger. Wochbl. Papier-Fabr. 62, No. 46:1077 (Nov. 14, 1931).—The advantages are given.—J. F. O.

Electric Boilers for Heating Water and the Production of Steam. Zellstoff Papier 11, No. 11:623 (Nov., 1931).—Investigations are made to determine under what conditions it is economical to use electric boilers in a plant.—J. F. O.

Saving in Coal by Simple Precautions in the Boiler and Steam Power House. E. Frohlich. Papier-Fabr. 29, No. 47:741-43 (Nov. 22, 1931).—Many worth while recommendations are made whereby greater efficiency may be attained in the boiler plant and the power house.—J. F. O.

Utilization of the Heat and the Elasticity of the Recent Stokers and Their Influence on the Choice of Boilers and Feeders. F. Kaiser. Papier-Fabr. 29, No. 43:678-689 (Nov. 25, 1931).—Numerous types of the recent stokers are described and profusely illustrated. In conclusion E. A. Kraft tells of the suitability of several new steam turbines for pulp and paper mills.—J. F. O.

Modern Steam Economics. Paul Gilli. Papier-Fabr. 29, No. 48:765-772 (Nov. 29, 1931).—New methods of heating the boiler feed water, as well as recent stoker types are described. The high pressure boilers of Schmidt and of Benson are discussed. The action of boiler scale and its removal are discussed.—J. F. O.

Concerning the Protection from Rust in Manufacturing Plants. Lowensohn. Papier-Fabr. 29, No. 36:591-592 (Sept. 6, 1931).—

The loss of iron and steel due to the action of the atmosphere and the various processes for the prevention of rust are briefly described. Because of its easy application and low cost, protective paints are used chiefly. Such protective coatings usually consists of a drying oil, a siccative and pigments. Mechanical, chemical and colloidial actions between the oil and the pigment gives the coating strength and durability. Five years is the average life of such a protective coating. Concerning lacquers there is not much general information.—J. F. O.

Utilization of Waste Heat in the Korostuishevskii Paper Factory. V. Tolishchuk and A. Kurlov. Bum. Prom. 10, Nos. 5-6:21-25 (1931); C. A. 26:598.—The waste steam is used for drying paper, cooking rags and heating the buildings. A specially designed superheater for waste gases from Diesel engines is discussed.—C. J. W.

Heat and Power Steam Engine in the Paper Industry. Wenkel Wochbl. Papierfabr. 62, No. 36:857-859 (Sept. 5, 1931).—Description and discussion of the steam engine.—J. F. O.

Pipe Economy. Reginald Trautschold. Paper Trade J. 93, No. 22: 49-52 (Nov. 26, 1931).—A brief discussion of the selection of pipes for different services in pulp and paper mills, from the standpoint of first cost, installation and operation.—A.P.-C.

Copper Pipe and Fittings in Paper Industry. L. M. Young. Paper Trade J. 93, No. 25:47-48 (Dec. 17, 1931).—A brief discussion of the merits of copper piping and fittings in paper mills.—A.P.-C.

Miscellaneous

Analysis of Gasoline. Anon. Paper Trade J. 93, No. 22:38-40 (Nov. 26, 1931).—A description of the tentative official TAPPI methods for corrosion test, distillation test and sulphur determination (which are the same as those adopted by the U. S. Government and the American Society for Testing Materials.)—A.P.-C.

Analysis of Formaldehyde. Anon. Paper Trade J. 93, No. 22:37 (Nov. 26, 1931).—A description of the tentative official TAPPI method (which is the same as the official method of the Association of Official Agricultural Chemists, and essentially the same as the U. S. Pharm. method).—A.P.-C.

Analysis of Sulphuric Acid. Anon. Paper Trade J. 93, No. 25:31 (Dec. 17, 1931).—A description of the tentative official TAPPI methods for sediment, specific gravity, acidity and iron.—A.P.-C.

Heavy Chemicals and the Paper Industry. H. E. Jones. World's Paper Trade Rev. 96:1382, 1384, 1433-1436, 1701, 1780, 1782, 1864, 1866 (Oct 10, Nov. 11-20-27, 1931); Paper Maker & Brit. Paper Trade J. 82, No. 5:TS14-TS19 (Nov. 2, 1931).—A discussion of the development of the modern heavy chemical industry with particular reference to the products which are of special interest in the paper industry: alkalies, lime, bleaching agents.—A.P.-C.

Controlled Chlorination of Water as a Means of Preventing Slime Formation in Paper Mills. H. Ainsworth Harrison. Paper Maker & Brit. Paper Trade J. 82, No. 3, lx-lxii; No. 4, lxxix-lxxx; No. 15, TS4-TS5 (Sept.-Nov. 1931).—A general account of the author's personal experience over a twelve-month period, bringing out the advantages to be derived from chlorination.—A.P.-C.

Alignment Charts. D. S. Davis. Paper Ind. 13:1101-1104 (Dec. 1931).—An explanation of how to prepare graphical methods of calculation.—A.P.-C.

Handling the Slime Problem. David Blanchard. Paper Mill 54, No. 48:12-15 (Nov. 28, 1931).—A brief discussion of the merits of the Magnus Slime Remover (nature not disclosed) for removing accumulations of slime in paper mill piping and equipment and for preventing its formation.—A.P.-C.

Printers' Paper Problems. Peter J. Massay. Paper Mill 54, No. 46:5, 14-18 (Nov. 14, 1931).—A discussion of some of the troubles encountered by printers owing to defective paper mill practice, particularly as regards cutting and wrapping.—A.P.-C.

General Survey of Printing Processes as Applied to Paper. Philip H. Prior. World's Paper Trade Rev. 96:1991-2000, 2040, 2042, 2097-2083, 2118-2126, 2159-2162, 2200-2208 (Dec. 11-25 1931).—An address showing the relative parts played by paper, ink, printing surface and the printing operation in the production of the finished sheet of printed matter.—A.P.-C.

Clear Water Marks in Tough Papers. The Plastic Water Marks in Fabriano Papers. H. Postl. Zellstoff Papier 11, No. 8: (August, 1931).—Description of the making of real handmade paper with clear water marks in Fabriano. Information of the mill itself is included.—J. F. O.

Bausch & Lomb Joins TAPPI

The Bausch & Lomb Optical Company was originated in 1853 by John Jacob Bausch, who began the manufacture of spectacle lenses and frames in this country. A partnership was later formed with Henry Lomb and the business expanded. In 1875 Edward Bausch began the manufacture of microscopes. The number of products were increased and in 1916 the production of optical glass was begun. During the World War Bausch & Lomb supplied the largest amount of optical glass made in America.

The plant is composed of 16 separate buildings containing over 1,000,000 feet of floor space and employs about 3,000 workers. Over 700 different products are manufactured, including scientific instruments, military instruments, shop instruments, projection and photographic lenses, spectacles and opthalmic instruments.

Of interest to the paper industry are such products as microscopes, micro projectors, color comparators, magnifiers, photometric devices and photo micrographic cameras.

The research staff includes such well known men as W. B. Rayton, internationally recognized authority on high speed lenses, who is director of the Scientific Bureau; L. V. Foster, designer of microscopes, who has participated in colloid symposiums, and who is known as an authority on the ultra microscope. The late William Patterson who contributed so much to the optics of metallurgy was also on the staff here. C. C. Nitchie, the well known spectroscopist is also a member of the staff.

The research and development division includes about 20 experts, well known in optical circles. A unique feature is the maintenance of a section which contacts industry, and studies the application of optical instruments in industrial problems. This work is intensely practical in its nature and results in excellent cooperation between Bausch and Lomb and practical men as well as scientists.

Bausch and Lomb is the only complete optical institution in America. It is the only institution where optical glass is manufactured. All products going into instruments are made and controlled at the plant, including iron, aluminum, and brass castings.

It has a larger research and development staff than all other American optical companies combined and has branch offices at convenient locations. It is a government "key" industry because it manufactures military products, etc.

Members of the research staff participate in many industrial and scientific societies and are affiliated with the American Society of Testing Materials, American Society of Steel Treaters, American Optical Society, National Educational Association, American Chemical Society, TAPPI, I. S. of M. P. E., National Photographers Association, and the United States Institute of Textile Research.

In joining the Technical Association of the Pulp and Paper Industry an opportunity is provided to contribute to the store of technical knowledge which is doing so much to convert paper manufacture from an art to a science.

The Integrated Industrial Power*

By Walter N. Polakov[1]

During the period of industrial readjustment one is tempted to cast a glance back in order to lay out a plan for the future.

Three years ago some of us were content to unload the cost of inefficiency on the consumer. The business conditions of today warrant in the opinion of some even the dumping of the overhead in order to stimulate the sales and to keep the plant running. Our learned economists seem to be at bay with all their theories offering this nation a veritable council of confusion. A situation not unlike that of some two hundred years ago in England, when a steam engine, power loom etc., ushered in the industrial revolution and threw men out of employment by the increasing productivity of labor temporarily above the consuming capacity of the preceding era.

Our present appalling underconsumption seems similarly due to the economically false distribution of wealth not permitting the full utilization of the boons of engineering genius. What has been invented, perfected and organized to reduce needless toil, eliminate wanton waste and to elevate the cultural and physical standard of living, lies idle like the hidden treasures of an avaricious maniac.

Yet the engineering profession today possesses means far in advance of those to be found in an average mill or plant, potent enough to markedly reduce the cost of production, to employ idle men and idle money in order to bridge the gap created between the advanced technique and antiquated finance.

Before the crisis came, the pulp and paper industry was annually consuming over 9 million tons of coal, 200 million gallons of fuel oil and some 12 million cubic feet of gas in its thermal operations.

This quantity of fuel was used in conversion of some 13,000,000 tons of product. This would indicate that something like 1,550 pounds of equivalent coal is used per ton of product in industry as a whole, whereas a reasonably fair practice calls for only 1,200 pounds of coal, i.e., almost 30 per cent more fuel is now incorporated into the cost of paper than it is necessary.

That such a situation exists in the industry is not surprising in view of the statistical data gathered by the magazine "Power" disclosing a shocking obsolescence of boiler plant equipment in the pulp and paper industry.

Out of total 3,000,000 primary horsepower thirty-six per cent of the boilers are of the old fire tube design and 1,030 boilers, or 40 per cent, were installed prior to 1916 or by now are over thirty years old.

To continue with such an obsolete, inefficient equipment, at any time but especially in view of the present economic situation, is as economically unsound as to undermine one's own foundation.

The less obvious but not less extravagant loss is often incurred even in the most up to date plants which are operated by a disinterested, untrained personnel which in our experience, represents a preventable loss from 15 to 30 per cent.

Thus the existing possibility of saving on the utilization of fuel alone amounts to not less than six million dollars annually. This item, however, does not represent the full amount of opportunities for saving outside of the power department of the pulp and paper industry.

Conversion is primarily a thermo-chemical process. The possi-

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* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 18, 1932. Written discussion of this paper is welcome and should be sent to M. H. Teaze, 200 Fifth Ave., New York, N. Y.
Contribution of the TAPPI heat and power committee.

[1] Consulting engineer, 25 Fifth Ave., New York, N. Y.

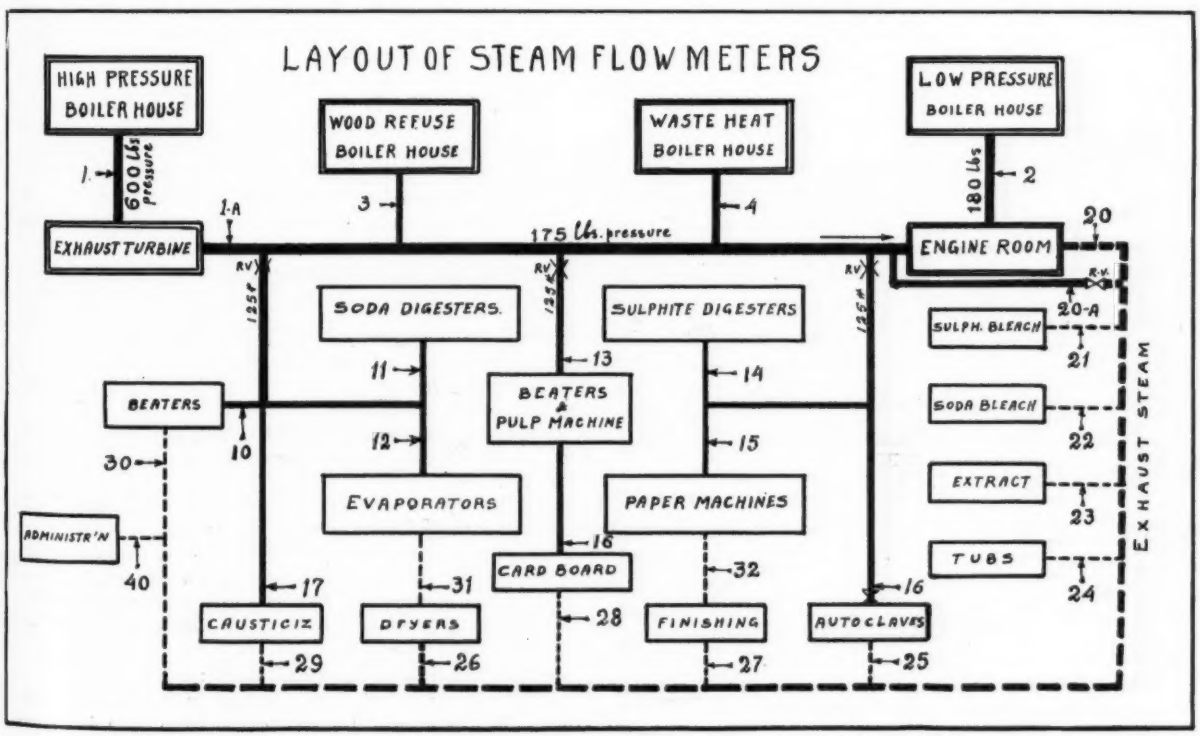

FIG. 1

Layout of steam flow meters for a typical pulp and paper mill. Twenty-seven meters account for all steam generated and distributed throughout the mill. Pitot tubes inserted as shown by arrows on the schematic pipe diagram, meters to be located in dispatcher's office, similar to one shown on Fig. 3.

bilities of waste do not stop at the boiler valve or turbine throttle, for steam, power, hot water etc., are used in every corner of a mill in nearly all operations. Our extensive experience in this field indicates that the possibilities of saving in the utilization and distribution of steam and power are as great if not greater than in generation.

In the past a mill power plant was pretty generally regarded as a sort of necessary evil. Later, the more far sighted executives, realizing that the power account is only second to the payroll in the conversion process, made some efforts to keep the power house more strictly accountable and favored economy in generation and demanded a more accurate record keeping. We have in our files enough case-histories of such power plants which, before the betterment was started "reported" a higher efficiency than after the measuring instruments were installed and expenses were actually reduced by a long and laborious process of training the personnel and improving the operating methods!

Today we are facing a situation in which to regard a power department of a mill as a self contained and economically self-sustained unit is no longer sound economics. If we incorporate the power department as an independent company, operating on its own budget and selling service to the mill, the economic soundness and even prosperity of this "state within a state" means mighty little, for the pulp and paper mill is run to produce goods, and not to buy cheap power. There is little advantage in wasting cheap power over wasting expensive power yet, when we attempt to strike a balance, and find out that during the distribution and utilization of steam and power we wasted all or more than we saved in generation,—"Where do we get off at?"

POWER DESPATCHER'S SUMMARY

WEEK / MONTH FOR ENDING — MONTH | DAY | YEAR

GENERATED	M lbs.	DISTRIBUTED	M lbs.
Boiler No. 1 H.R.T. 60 lbs.		Meter No. 6	
2		5	
3		4	
4		Total Live Steam to Mill	
5		Water No. 17 Exhaust Mill	
6 H.R.T. 130		No. 3 Build up	
7		Difference to Engines	
8		Total Steam	
9		Discrepancy %	
10		ELECTRIC CURRENT	
11 HEINE		Total K.W.H. Generated	
12		Consumed by Mill Light Power	
13		Consumed by Village	
14		Total K.W.H. Distributed	
15		Transm. & Transf. Losses	
Total Steam Made		ACT EVAPORATION EFFICIENCY %	
Feed Water Record			
Power House Use ----%			

DEPARTMENTAL CHARGES

Dep.		Meter	Lbs. Total	Kind	Price M	Total Charge	Production	Lbs./yd.
3	Singers	23		E				
3	Mercerizing	19		E				
		−17		E				
		Dif. 1		E				
		plus 9		L				
		TOTAL						
4	Kiers	8		L				
4a	White Tubs	19		E				
		−Dif. 1						
		TOTAL						
7a	Black Dye	7		L				
7c	Black Finish	6		L				
		−7		L				
		TOTAL						
8	Silk Bleach	23		L				
9a	Cotton Dye	16		E				
		plus 13		L				
		TOTAL						
10	Silk Dye	11		L				
		−10		L				
		Dif. 2						
		plus 20		E				
		plus 24		L				
		TOTAL						
11	Silk Finish	11		L				
11a	Cotton Finish	4		L				
		−13		L				
		Dif. 2						
		plus 18		E				
		TOTAL						
12b	Calenders	23		L				
12c	Steel Cans	18		E				
		−16		E				
		TOTAL						
15	Power Plant			L				
	Other Uses							
	GRAND TOTAL & AVER.			L.E.				

PRODUCTION STATISTICS

	TOTAL		COST		UNITS	
Aver. yds. in Process		yds.		Lbs./yd.	Mills/yd.	
Total Steam Used		lbs.	$			
Total Fuel Consumed		lbs.	$			

Power Despatcher

FIG. 2

Power dispatcher's summary form as used by a large textile finishing plant, securing over $40,000 annual saving on steam distribution and utilization by means of dispatching.

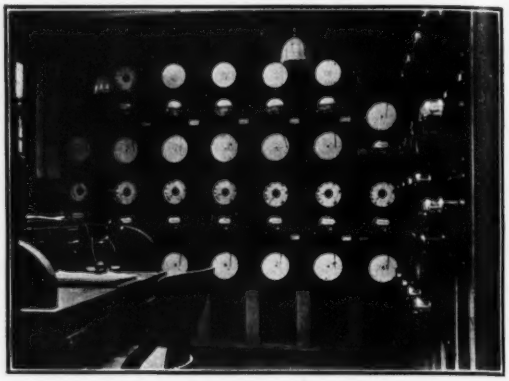

FIG. 3

Desk and steam flow meter panel board in a representative steam dispatcher's office. Each panel for each point of remote metering consists of indicating, integrating and chart-recording instruments.

Analysis

Our conception of integrated power in an industrial plant demands a logical analysis which does not limit itself to any one element but regards the entire production problem as a whole.

The first question to ask, therefore, is: Do we get all the product we can per k.w.h. or per pound of fuel? If not, why not?

I submit, that it is easier to ask this question than to answer it, for it requires a certain amount of studies, tests and experiments to accurately establish the "bogey", the "task", or the "standard" in a number of B.t.u. per pound of product considering the existing equipment, grade and quality of the product, etc.

It is quite obvious that a sulphite mill may require say 20,000 pounds of steam and 500 k.w. per ton of product, while a groundwood plant may need only half that much of steam and twice that much of electric current. The standard input per unit of output would be set, of course, according to the character of equipment and the nature of conversion process.

It matters little, if at all, whether the power plant is owned by the mill or the utility furnishes the steam and power or else the steam is generated by the mill and the electricity is purchased from a utility company. What matters is how much it costs at the tail end of the process. If the economy appears poor, where is the seat of the trouble: in utilization or in generation? And when the trouble is allocated, what are the means for the reduction of that waste?

Fortunately there is no necessity to go into all these investigations from the beginning. An executive of experience could readily establish for his mill such a task "in rough" after a consultation with his superintendents and engineers and going over some records.

If the mill is falling short of this mark, the question WHY could be answered if two other questions are answered.

Is the equipment utilized as efficiently as it should? If not, why not? And: Is the power and steam generated as efficiently as it should? If not, why not?

The advantages of such an analysis are obvious because it allocates the responsibility and suggests the remedies, it absolves from responsibility the departments which do not cause losses, it represents graphically the location and the extent of the loss so that an executive sees at a glance where his assistance is needed without going through the mass of details, and it stimulates all concerned to attain the best results.

We have thus a set of three basic charts:

1—*Performance record chart* indicating by straight bars on the scale of the task set what has been accomplished from day to day.

2—*Heat and power utilization chart* indicating by straight bars for each unit of equipment such as Digesters, Autoclaves, Evaporators, etc., on the scale of the task the ratio of its attainment.

3—*Fuel utilization chart* representing graphically on the daily task scale the efficiency of steam generation.

As in the case of the first question, the task for the second and the third charts may be accepted in the beginning from the common knowledge and past experience, gradually, as the operating or physical improvements are introduced the tests would establish more accurate data of allotted pounds of steam per pound of pulp or caustic, or kwh., etc., as well as boiler tests and the training of firemen in the habits of efficient operation will establish a definite task in terms of ratio of evaporation or boiler and furnace efficiency.

Power Dispatching Functions

The control of steam and power distribution, utilization and record keeping should be centered in the power dispatcher's office. His chief functions are to see that every conversion department receives the service from the power plant it needs, that it utilizes the steam and power within the established allowance and that the power house is informed as to the time and extent of the anticipated demand.

The executive engineer of one of our client companies described the functions of the power dispatcher which we have first inaugurated as far back as 1922 as follows:[1] "Inasmuch as 73 per cent of the steam generated is used directly for processing and the remaining 27 per cent is used for process, heating, and warming up large quantities of water for various purposes after it is exhausted from the engines, the distribution of steam presented a large problem as to: a—Metering; b—Dispatching, and c—Elimination of losses."

The information gained from these studies brought the management to the realization that the organization of the power department should be changed. The chief engineer was thereupon made responsible for the generation of steam and power, and the power dispatcher responsible for the dispatching of the steam to the consumers and also for the elimination of losses.

[1] H. M. Burke "A Steam-loss Prevention Plan" . . . . A.S.M.E. Annual Meeting, Dec., 1923.

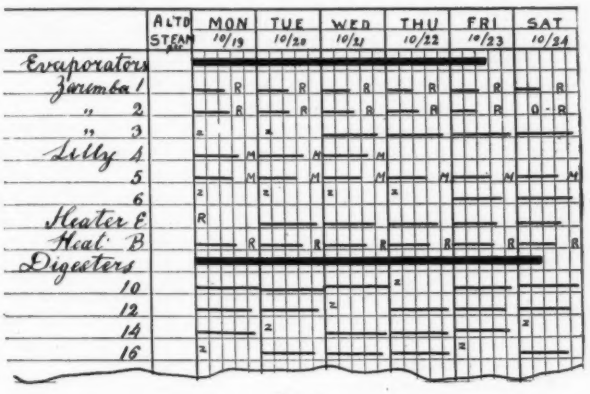

FIG. 4

Heat Utilization Chart. On the basis of steam allotted per unit of output, the efficiency of each apparatus is calculated and recorded. It is evident from this chart that the first group of evaporators needs repair and cleaning as well as heater "B." Poor showing on evaporators 4 and 5 is due to wrong operation of the valves by the man. The heavy line heading each group of equipment is the average efficiency (compared with the task) of the group under one operator.

His specific duties are as follows:

Inspection of all distributing lines, and conductors (except sprinkler system), and all valves, traps, appurtenances, and instruments thereon, for the purpose of preventing any losses of heat, light, and power in transmission.

Investigations and studies of the various manners in which

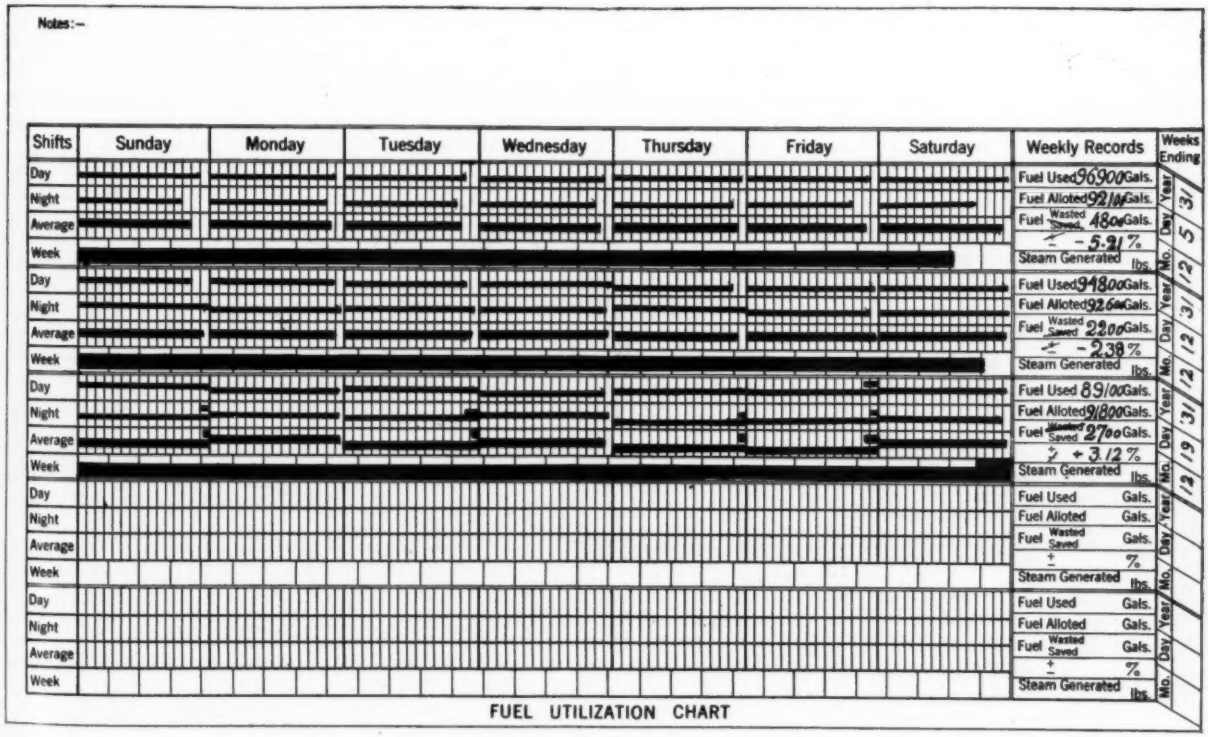

FIG. 5

Fuel Utilization Chart entering the record of performance during the first three weeks of December. During the first week the day shift has attained a higher efficiency than the night shift; the next week this crew was working nights and has done even better on night load. This stimulated the other crew and both produced excellent results during the third week exceeding the task requirement of 3.12 per cent. The length of the bars represent the number of pounds of steam generated per one pound of fuel oil.

steam, water, and power are used for various purposes, with the aim of devising and recommending a more economical practice.

Recording of steam, power and water consumption by various departments and preparation of reports and cost charges.

The power dispatcher has the authority to:

Schedule and specify all maintenance work on distributing lines and appliances pertaining thereto, and to draw necessary materials on his requisition.

Supervise the work done on distributing lines, etc., by the employees of any department or outside concern.

Secure information, data, and records from the heads of all departments pertaining to heat, light, power, and water demands and uses, production data, and practice relating to delivery and consumption of heat, light, power and water.

Inspect the actual practice of drawing and consuming heat, light, power and water in every department.

The power dispatcher is responsible to the plant engineer for:

Uninterrupted and economical delivery of heat, light, power and water distributed through conductors under his supervision.

Accuracy of all records and accounts covering distribution and use of heat, light, power and water.

Effective co-operation with all departments for the purpose of securing greatest practical economy in the uses of heat, light, power and water.

The power dispatcher has a separate office on the premises adequately equipped with metering, calculating, and recording facilities.

All foremen of all departments are expected to co-operate with the power dispatcher in the prosecution of his duties and the exercising of his authority, while any lack or failure of such co-operation is considered a breach of the company's discipline.

With the dispatcher at work the first attack was made on the system used to transport the steam. Immediately it was discovered that a complete plan of the existing piping was not only desirable but positively necessary, as it was evident that comfortable savings could be secured by simple changes in old layouts. Traps in out-of-the-way places that had been forgotten were overhauled, listed, and examined periodically, uses for condensate not fit for boiler feedwater were found either in the department itself or in an adjacent one, or the water was brought back to a sump where it could be used economizer fashion to preheat cold water to be used for process.

The inspection revealed many and varied losses which were later turned into savings. A simple example of economies that were effected is the caring for steam traps. Where there are large numbers of these it is often wise to have one man look after traps alone, especially in the cold months of the year. If there are not a sufficient number to require the full time of a man, it has been found a good policy to have him devote a definite part of each day

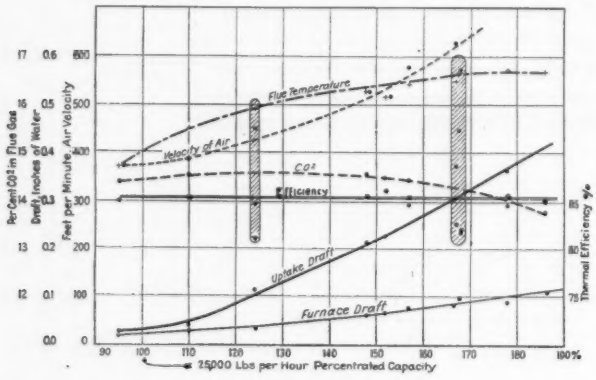

FIG. 7

Summary of ten evaporation tests on a battery of oil fired multi-drum water tube boilers. Three of the tests with purposely maladjusted drafts show efficiency of 81.82 and 82.5 per cent efficiency instead of the average 85.5 per cent with a correct adjustment and proper firing.

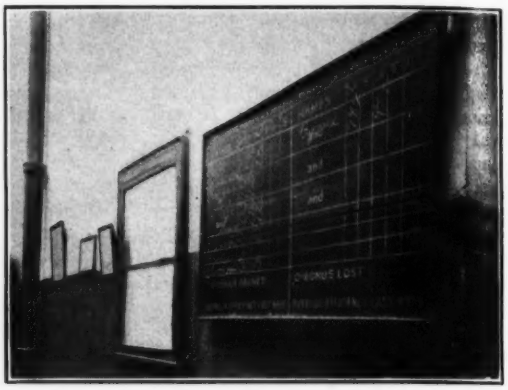

FIG. 6

Bulletin boards as installed in a boiler house of a prominent paper mill upon which firemen post the records of their efficiency and the frame for fuel utilization charts.

in attending to this equipment, and the remainder of his time to other jobs.

A plan of the piping system not only showed where savings could be made in the old installation but was a great help in planning how to avoid losses in future additions to the system. This knowledge at hand immediately prevented clumsy and inefficient piping layouts that might have been made had lines been put in as needed with as little regard to the existing and future possibilities as is ordinarily the case.

Investigation into the uses made of steam revealed the fact that the conditions existing simply abounded in opportunities for savings, and those engaged in it began to wonder why it was that so many find fault with the cost of generation when there is such waste in utilization. The most natural thing in the world, therefore, was to fix the responsibility on the consumers of steam. "If the consumer must waste them, make him pay for it," was the slogan adopted. Of course this was easier said than done.

Here was a problem, here were the large savings, here were the mightiest of obstacles, here was where all kinds of excuses would be offered as to why such savings would affect the quality of the product at a so-called small saving of steam.

Then, again, if steam could be saved in large quantities, who was the taskmaster who would sit in judgment in each department and say when and how long steam should be used, not one hour or a day, but every minute every day of the week?

It was a hard task for the power dispatcher to *estimate losses,* recommend better practice in the use of steam in various departments, and see that his recommendations were carried out. It was still harder, however, to convince the department head that his department was wasteful of steam, and that he was to take orders from a man who knew less about the product he was processing than he did.

Many ways were thought of to help reduce the consumption of steam. Of course, putting a bonus on the use of steam would help. However, such a bonus could not be figured unless it was definitely known how, where, and in what quantities steam must be had by the different departments.

"The results of the system have greatly exceeded anticipations as the savings made have greatly outweighed the expense incurred for meters, changes in pipe lines, investigation, and research. Acknowledgment is made of the practical value of the method of mastering power production established by Walter N. Polakov, of New York, whose services were secured by the company in February, 1922."

"At the beginning of the work the estimate of possible annual savings was:

In generation	$40,000
In distribution	15,000
In utilization	25,000

At the time of writing this paper the evidence on record shows the following yearly savings:

In generation	$39,760
In distribution	12,320
In utilization	24,800

The savings enumerated above, it may be said, represent only a few items."

Managerial Control

Such matters as: uses of proper pressure of steam, temperature of water, heat recovery, elimination of idle machine running, determination of necessary time for each process on each mechanism and above all, the scheduling of starting and stopping of all steam and power consuming processes throughout the mill are the functions falling within the field of power dispatching.

It is obvious, that good results in this field demand a close and hearty co-operation with the entire operating force, requires the support of mill superintendents, researches of the laboratory, and sometimes reorganization of the maintenance department.

The progress of work along these lines is stimulated by the actual billing of each department for the steam and power consumed not on any fixed pro-rata basis but on the basis of actual meter readings.

Fig. 1 illustrates schematically the layout of steam flow meters.

Fig. 2 reproduces the form of a power dispatcher's summary on which he distributes from the meter readings the amounts consumed and charges to each department.

Fig. 3 shows the inside of the dispatcher's office with panels of electric (remote) steam flow meters. By watching their indications the dispatcher sees whether the steam is used during the scheduled time; whether the amount of steam used is within the allowance; etc., and if not, he calls the attention of the respective user as well as of the power plant that such a condition prevails, and suggests the necessary steps to be taken.

Some very valuable work of standardization of temperature, pressure and speed necessary for efficient pulp cooking and other paper making processes was made by Robert B. Wolf, clearly shows the economic importance of such control and cooperation between the power-using and power-providing departments as here advocated by us.

The results of such a method of control as installed by us in a similar industry of textile finishing amounts to 20 per cent of the fuel bill even in the well conducted establishments.

An executive, examining daily the chart record of heat utilization sees at a glance which departments and which particular operations are wasteful. Every short line on the chart opposite the operation indicates that the production was short of standard when compared with the amount of steam, fuel or power consumed. A letter-symbol behind the short bar indicates the cause of trouble such as: M—fault of man, R—needed repair, and L—insufficient load, etc.

If the lines on the chart are across the full width of the daily space, it clearly indicates that the task, as to economy, was lived up to and if the task was exceeded and a greater output was gotten for the input, the line is doubled up and runs over proportionately.

Fig. 4 reproduces such an equipment heat utilization chart. The facility with which the executive can envisage at a glance the thermal efficiency of operation of different units, sees where the trouble occurs and why so that he may at once take the necessary steps to prevent its recurrence in the future—are self evident.

Similiarly, the chart shown on Fig. 5 tells a story of steam generating efficiency. The fuel utilization chart indicates by the same means of straight bars for each day and each shift what efficiency was maintained in the boiler house. The width of the daily column on the chart represents the established task for boiler and furnace

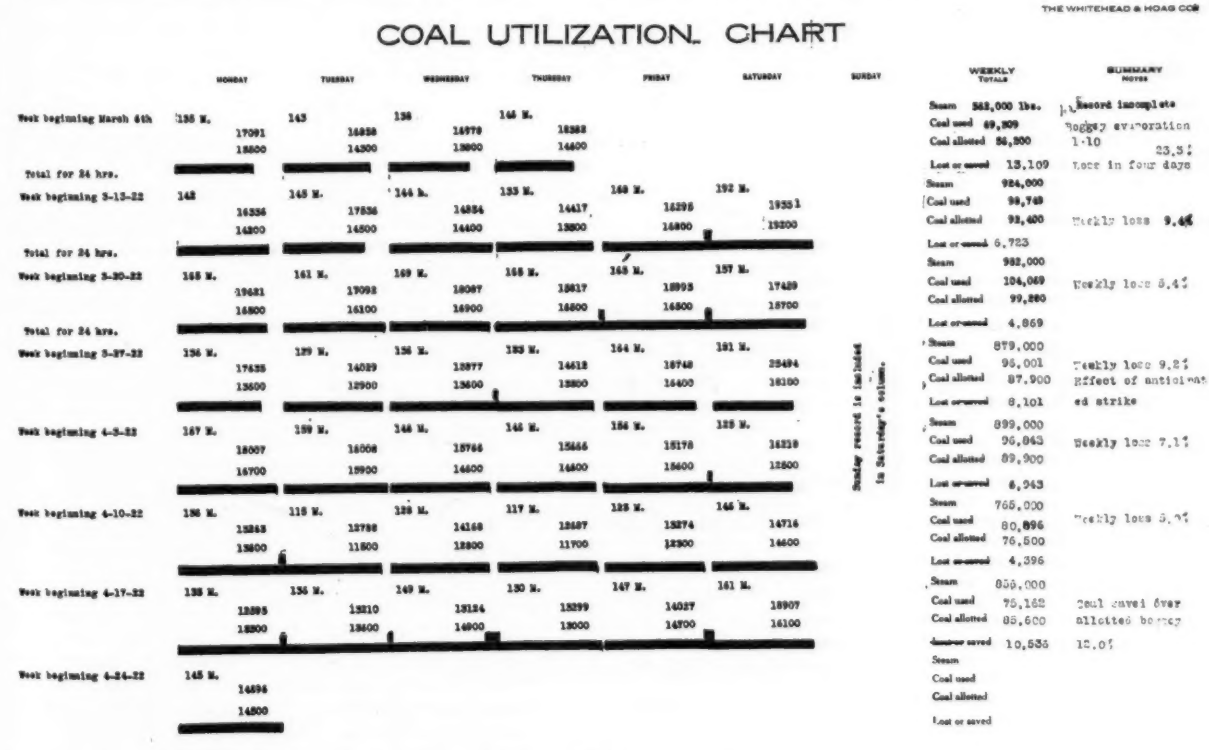

FIG. 8

Coal Utilization Chart recording a case history of a plant in the beginning of the training of firemen. First week they fell 23.3 per cent below the task set for them, next week they reduced the loss to 9.4 per cent, the third week noticed a further reduction of loss to 5.4. On the fourth week disquieting rumors of a possible strike reached the men and their interest in the work slackened and losses increased to 9.2 per cent. When conditions became normal, the interest revived and in three weeks hence they showed an economy above the task by 12 per cent or total improvement of 35.3 per cent in seven weeks of training.

efficiency and the short lines indicate that the crew fell short of its task and by how much while the symbol-letters at the end of the short line denote the cause of failure thus: F—trouble with fuel, R—unsatisfactory state of repairs, and I—instruments out of order, etc.

The lines drawn the full width of the daily space indicate that the task efficiency was reached and, when efficiency attained was higher than specified as a task the line is doubled up in proportion by which the task was exceeded.

Human Element

The psychological effect of such a chart-record on the power house personnel is very strong. The spirit of striving for perfection is frequently so strong that the men mark their own record on the boiler fronts by chalk or ask for a blackboard on which their score could be marked as on a bulletin board. Fig. 6 represents one of the oldest boards of this kind placed in the boiler room of the Mittineague Mill of the Strathmore Paper Company.

The beaten path of improving the boiler house efficiency is well known: by a series of experiments and tests a bogey or standard task is established and all the essential conditions for duplicating same at will are noted. Fig. 7 illustrates a record of such tests, indicating that with this particular oil burning installation for every rate of steam flow (load) a set of definite conditions is to be maintained in order to secure an efficiency of 84 per cent. For the sake of further demonstration some of the tests were run with a wrong adjustment of draft, etc., and the consequent poor results were also marked.

While these tests are being conducted, they are used for training the power house force in the habit of efficient operation and the necessary instructions are given so that standardization and training goes hand in hand at the same time without any further expense or delays. A procedure as described usually pays a handsome dividend, frequently exceeding 150 per cent on investment in instruments and counsel.

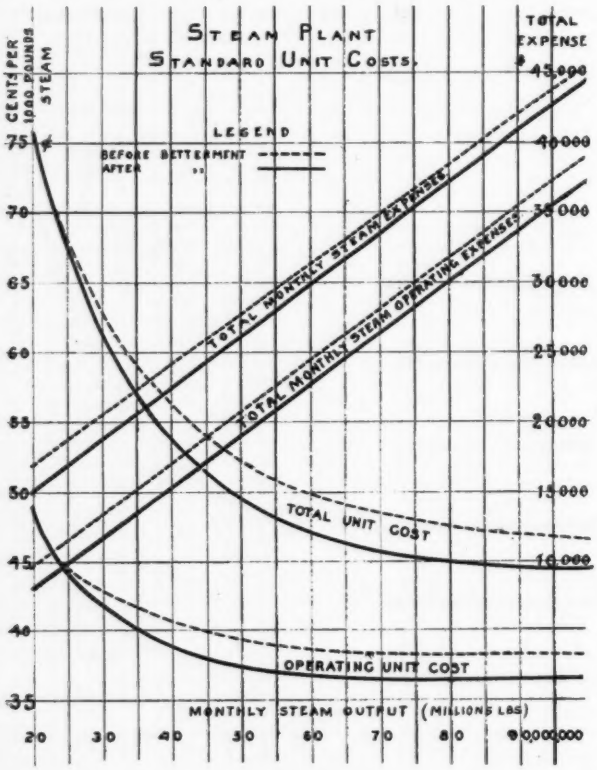

FIG. 9

Standard Unit Cost for a steam plant giving for any monthly output of steam (in millions pounds) the operating unit cost, total unit cost (including the overhead) and the total monthly expense as they should be if the standard efficiency (task) is steadily maintained in the boiler room operation. In this particular case, improvement over the old level (dash-line) shows an annual economy of $18,000 which was actually exceeded.

One of the most frequent and expensive mistakes is that when the executives and engineers pin all their hopes on the old superstition that a good, new equipment with an automatic control would produce economically as good results as possible. Nothing is farther from the truth than this. It is true, of course, that a more up to date generating equipment will probably show a higher efficiency than the old one. Yet the new installation carries an added burden of increased fixed charges over the old, already depreciated, equipment. This must be discounted first to get any intelligent comparison of economies. Next, to be exploded the faith of the operating personnel, that since the new plant is automatic, they cannot go wrong. Finally, the new installation frequently is made by the builders and contractors who, after the demonstration that the *specified* efficiency *can* be obtained, have no further interest in thoroughly coaching every member of the crew in all the intricacies of the best possible operation, so that this high efficiency actually *will* be secured day in and day out. On the other hand, what the men know and how much of their knowledge they actually use is a very different story.

The well known effect of incentive payments or bonus on the quality of the firemen's work and hence on the economy of steam generation is an indirect indication that what can be done is not necessarily being done unless for special incentive. Yet, often there is some hazy confusion as to the basis for the firemen's bonus. Some advocate the per cent of CO_2 in flue gas, some believe in other incidental indices. As far back as 1913 we have demonstrated in the plants of a Pennsylvania public utility[3] that the most reliable, economically sound and acceptable to all concerned basis for bonus to firemen is the boiler and furnace efficiency they maintain. In such a case, the bonus record and the fuel utilization chart coincide insofar as all lines shorter than the width of the daily column indicate the lost bonus and the letter-symbol at the end of the short bar denotes the reason why.

In this connection it is instructive to note to what degree the efficiency of steam generation, and for that matter, efficiency of all labor processes depends upon the purely psychological reactions of the employee to every kind of external depressing stimuli. In one instance the crew, just beginning to develop the good habits of industry and efficiency, learned that the employees of the machine shop are discussing the possibility of a strike. The boiler efficiency at once dropped markedly but was restored even to a higher level when the trouble was settled. (Fig. 8.) In other instances, as in the case of a paper mill boiler room, an ill advised reduction of the bonus rate sent the boiler efficiency tumbling down to the level preceding our work, but got restored as soon as the bonus was reinstated as originally specified.

Perhaps the most striking example of the economic value of the boiler house organization advocated by us may be found in the comparison of records of two boiler houses of the same mill, in one of which the operating principles advocated by us were introduced while the other was left to its own old practices. During the period under observation from June, 1925, to June, 1927, the plant adapting our recommendation increased its average annual efficiency from 63.6 to 73.3 per cent, while the check plant, left alone, dropped its efficiency from the annual average of 70.2 to 67.8 per cent.[4]

Allocation of Power Costs

To allocate the cost of power to the different kinds of product is an intricate and sometimes difficult matter. Yet it is extremely important, especially in the times of close quoting, because upon the correct determination of this portion of the total cost of production depends the correct pricing of the goods.

For example, if the power cost for manufacturing one product is higher than for manufacturing the other, yet the power charge

[3] Transactions A.S.M.E. 1913, paper 1401.
[4] The Paper Industry, January, 1929, "Modernizing Power Plants."

is made equal to both, then the product requiring more power will be underpriced and will gain favor on the market; this will increase the total power expense further but at the same time it will accumulate losses for the concern on its sales.

The matter is further complicated when different forms of power are supplied from different sources, for instance steam is delivered from two very different boiler houses, some power is purchased and some is generated by the water wheel while the rest is generated by the steam turbine.

The establishment of the standard cost of power (in every form and from every source) is another problem of extreme importance to the executive who cannot afford to go into minute engineering details of power generation. A simple diagram can be worked out showing what the steam, power, etc., *should* cost for every particular monthly, weekly or daily output. These standards, of course, are to be revised for changes occurring in the price of fuel, labor or readjustment of the overhead. Fig. 9 represents such a diagram for a particular instance. On the basis of such standard unit costs the summary chart is prepared for the executive's information and guidance.

The consideration of power not as isolated problems of generation, of distribution and of the use of steam here and electricity there, but as an integral part of power production, offers many advantages from the managerial, economic and engineering viewpoint.

From the managerial standpoint, it ends the antagonism of interests between the users and the producers of power. It leads to securing the optimum final economy; it permits the application of "exception principle" in the management of all departments including the power department; it allocates the due responsibility where it belongs without the opportunity of "passing the buck" and it promotes a better upkeep and maintenance of equipment.

From the economic standpoint it permits a proper costing of various grades of mill product by the proper allocation of power expenses to the different conversion processes; it paves the way to the introduction of "unit cost" accounting; it permits "payment by results" and accurate basis for bonuses both to the departments and to the individuals and it tends to reduce the total operating or conversion cost.

From the engineering standpoint it embraces into the heat balance the entire cycle from fuel storage to finished product; it places in proper perspective the pros and cons of generated power versus purchased power; it establishes the optimum economy in the production of the mill as the final criterion of efficiency, instead of the isolated consideration of this or that unit; it provides definite standards of perfection for operation at each stage thus establishing fixed tasks for operators and it clearly differentiates between the engineering perfection and the economically desirable limitations.

Paper and pulp production, like any other modern industry, is no longer a handicraft but a power production. Man-labor power is displaced by motor power; the subtle feeling of senses and so-called skill in manipulations is being displaced by standards and alert control of the flow of power according to instrument indications. *Labor process* becomes more and more a *mental process.* If in the past the saying, "he who has the tool shall have the power," was correct, today the situation is reversed and we may justly say: "he who has the power shall have the tools."

Success or failure in the modern production more and more depends upon the thorough understanding of the power requirements for production and its control.

Water Solubility of Wood and Pulp *

Tentative Official Method of the Technical Association of the Pulp and Paper Industry

COLD WATER SOLUBILITY [1]

I. Apparatus

The special apparatus required consists of a suction filter flask and a rubber flange for the crucible and funnel.

II. Specimen

The specimen shall consist of about 2 grams of an air dry sawdust or pulp.

III. Method

Two grams of air-dry material, the moisture content of which has been previously determined, or of oven-dry sawdust or pulp, is placed in a 400 cc. beaker, and covered with 300 cc. of distilled water. This mixture is allowed to digest at room temperature, with frequent stirring, for 48 hours. The material is transferred to a tared alundum crucible, is washed with cold distilled water and is dried to constant weight at 105 deg. C. Drying usually requires approximately 4 hours. The crucible is placed in a stoppered weighing bottle, is cooled in a desiccator over concentrated sulphuric acid, and is weighed.

IV. Report

The amount soluble shall be reported as a percentage of the oven-dry weight of the material.

V. References

Chemistry of Cellulose and Wood, A. W. Schorger (1926), p. 506.

Chemistry of Wood, Hawley and Wise (1926), p. 134.

HOT WATER SOLUBILITY [2]

I. Apparatus

The special apparatus required is a constant level bath.

II. Specimen

The specimen shall consist of about 2 grams of an air dry sawdust or pulp.

III. Method

Two grams of air-dry material, the moisture content of which has been previously determined or of oven-dry sawdust or pulp is digested with 100 cc. of distilled water in a 200 cc. Erlenmeyer flask provided with a reflux condenser. The flask is placed in a boiling water bath, the water level of which is maintained constant, just above the solution in the flask, by means of a constant level apparatus. After boiling gently for three hours, the contents of the flask is transferred to a tared alundum crucible, washed with hot water, dried, cooled over concentrated H_2SO_4 and weighed in a stoppered weighing bottle.

IV. Report

The amount soluble shall be reported as a percentage of the oven-dry weight of the sample taken.

* Presented at the annual meeting of the Technical Aassociation of the Pulp and Paper Industry, New York, N. Y., Feb. 15-18, 1932.
This method has been approved by the TAPPI pulp testing committee. Send written criticisms and comments to R. G. Macdonald, 370 Lexington Ave., New York, N. Y.

[1] Official Forest Products Laboratory Method No. 15 as rearranged in wording by Paul S. Billington, Junior Chemist Forest Products Laboratory. (See series of tests compiled by Mark W. Bray—Paper Trade Journal, Dec. 20, 1928).

[2] Official Forest Products Laboratory Method No. 17 as rearranged in wording by Paul S. Billington, Junior Chemist, Forest Products Laboratory and member of TAPPI Pulp Testing Committee. (See series of tests compiled by Mark W. Bray—Paper Trade Journal, Dec. 20, 1928).

Recent Trends In the Design Of Paper Machinery*

By P. M. Foster[1]

The developments which have taken place in the last year or so have not been revolutionary in any sense of the word but have come about by reason of the necessity for machinery and equipment better adapted to modern paper manufacturing demands. These improvements have not alone been confined to paper machines but have taken place in the design of equipment used for production of pulp, refining of stock, power plant equipment, etc., possibly through the entire list of equipment upon which the manufacture of paper depends. Because of the extent of this subject, this paper will be confined to those recent trends in the design of paper machines and their auxiliaries.

I will hurriedly take up each section of a Fourdrinier paper machine to which recent improvement has been made and bring out current developments which illustrate the present day trend in design. The first important development has been in the Fourdrinier shake.

Fourdrinier Shake

Working upon the principle that various kinds of stock, being physically and chemically combined with various quantities of water and running at different speeds, are formed into a sheet at different points on the wire, we have so arranged the Fourdrinier table that any portion of it in the forming area can be shaken, or all of it, as desired, so that it is possible to shake the forming web at the point where the best results are obtained and without disturbing the formation after the web has once been formed. The super-shake was designed to give within limits any length stroke desired with a maximum of 750 strokes per minute. Both the length of stroke and the number of strokes per minute can be quickly and easily varied to meet the conditions while running.

The new Super-Shake comprises a number of important items of design, all of which are essential to the ultimate successful operation of the shake. For instance, the total weight of the shaking parts must be kept as low as possible. When it is known the amount of weight which must be shaken at various strokes and at high speeds, the importance of keeping the weight of all parts as low as possible is readily understood. For example, the shake parts of a 234 inch machine weigh approximately 25,000 pounds, the mass of which when shaken at 375⅜ inch strokes per minute requires a force of 18,750 pounds.

By being able to shake only that part of the forming table which can improve the sheet formation, it is therefore unnecessary to shake the balance, thus reducing the weight to be shaken.

By using aluminum table rolls the weight is materially reduced. These rolls can sometimes be used uncovered or can be covered with brass or rubber. We are also covering table rolls with Micarta which is a light hard substance and is heat and water-proof and resistant to the usual acid and alkaline waters found in paper mills. A number of Micarta covered table rolls have been running about a year and judging by the results so far this material has great possibilities.

The new design shake pedestal goes a long way toward making the Super-Shake possible. Its design is based upon a simple link mechanism consisting of a crank-shaft mounted on anti-friction bearings and connecting rods and bearings cast integral of phosphor bronze. Due to simplicity and ruggedness, maintenance and attention to the shake are an absolute minimum.

Rubber Covered Suction Press Rolls

In the press section probably the most significant development has been that of the trend to rubber covered suction press rolls. The addition of the rubber covering to a suction roll permits the use of a hard surfaced top roll such as granite, gun metal, chilled iron or hard rolls of other composition in order to improve the finish, to make for safer running and to permit creping on the top roll of a suction press.

Due to the fact that a suction press removes more water with lower nip pressures than can be removed from the sheet with a plain press and because the felt is kept cleaner and drier, the felt life is vastly improved over that in the case of the plain press.

By rubber covering the suction roll, still greater felt life is obtained because of the different densities of the rubber and the metal and because the action of the drilled rubber surface on the felt is less abrasive than that in the case of the drilled metal shell.

The advantages of suction press rolls were first recognized for use on high speed newsprint machines where greater pressures at the presses were required in order to provide greater capacity to dry increased production. Because of the nature of the stock, granite or other hard rolls are used on top of the metal suction presses with greatly reduced felt life resulting. In fact, felt life has always been an obstacle when it was necessary or desirable to use a hard top roll co-working with a bottom drilled metal suction roll.

The use of rubber covered suction rolls completely eliminates that obstacle and it is now possible to use hard rolls on top for improving the finish or for creping or to make for safer running without sacrificing felt life.

On book papers or other soft papers having high soda pulp content, the suction roll must be drilled with very small holes to eliminate any chance of their marking the sheet. This applies to some hard papers and to many papers made on second suction press rolls where an old hard felt might permit the roll drilling to shadow-mark the sheet. It might be well to state here that even on book paper having ash content as high as 28 per cent there has been no tendency for these small holes to plug up due, no doubt, to the resiliency of the rubber cover and the quantity of water passing through them.

From a practical standpoint, it is possible to drill smaller holes in rubber than can be drilled in metal, also when passing through the nip of the press the holes in the rubber tend to close and in this way further eliminate any chance of marking the sheet. The efficiency of the suction roll is not reduced by the closing of the holes in the rubber directly under the nip because the sole duty of the vacuum is to remove the water pressed from the sheet and felt directly in front of the nip, thereby not permitting water to wedge its way through along with the felt.

Improvement in felt life and elimination of marking are only two of the many advantages of the rubber covered suction press. For example, on a book machine producing a quality sheet having great bulk and using a 100 per cent soda pulp furnish, the bulk was greatly increased by the use of a rubber covered suction press roll which sent the sheet drier to the driers and as free of marks as if made over a plain press. This suction roll was also responsible for the elimination of all breaks due to

* Presented at the meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry, Appleton, Wisconsin, April 12, 1932.

[1] Engineer, Beloit Iron Works, Beloit, Wis.

pick-ups experienced when making the bulky sheet over a plain press.

In the past it has been customary in the design of glassine and greaseproof machines, also high grade bond and ledger paper machines, to use a light weight top roll over the metal suction first press roll because these grades mark very easily. On this class of paper the efficiency of the suction press can be greatly increased by reason of greater nip pressures and water removal if the suction rolls are rubber covered.

Rubber covering of suction press rolls makes possible the use of single felts on tissue machines. In this application the suction roll is used as a pressure roll. This application is responsible for the radical change in design of tissue machines and is one of far-reaching importance to the industry.

Other Roll Coverings

There are possibilities that Micarta can be used for top press roll covers. This material has not been used for this purpose but we are in hopes of covering a roll with this material soon. It is quite likely that the covering would consist of a number of thin circular discs clamped together on a core under pressure, similar to the construction of a paper supercalender roll.

It appears that Micarta has all of the necessary characteristics for service of this kind but whether or not it will be satisfactory can only be determined through actual test.

It is quite possible that the recently announced synthetic rubbers "DuPrene" and "Thiokol" will have properties which will make them very desirable for press roll service. "DuPrene" is made by the DuPont Corporation and "Thiokol" by the Thiokol Corporation.

The claims of the manufacturers are that "DuPrene" does not age nearly as fast as does rubber nor is it affected as much by oil or grease. It absorbs about 7 per cent or more of its weight of oil. For "Thiokol" they claim that it does not age and while it will not absorb oil it is unaffected by oil or grease. So it appears that these substances when used as covers for press rolls can be subjected to kerosene or other oils and since "DuPrene" absorbs oil this material might be found to have very desirable sheet repelling properties. At any rate, these new synthetic rubbers will undoubtedly be tried out for paper mill service and it will be quite interesting to note the results obtained.

High Speed Vapor Condensate Removal

A comparatively recent development in the drier section has been the Beloit high speed drier condensate remover. This device consists of a fan shaped nozzle or scoup screwed on the end of a curved pipe extending from a junction box located at and fastened to the center of the drier head. From this junction box a pipe passes out through the drier journal. The curved pipe is turned so that water is forced through it toward the junction box when the scoup which revolves with the drier passes through the puddle of water in the bottom of the drier.

In all new driers a ½ inch deep groove is cut near the back end of the drier. The scoup has a narrow opening the full width of the nozzle and lies in this groove. In this manner the nozzle opening is submerged so long as there is water in the drier.

We ran some interesting and exacting tests on this new condensate remover. With a puddle in the drier the remover takes out water without the aid of a pressure differential. However, we found that a puddle starts to go around with the drier after a certain speed of the drier is attained and that different depth of puddles start to go around and distribute themselves in a film or layer of uniform depth at different speeds, or, in other words, for each depth of water in the drier there is a definite speed at which it starts to go around with the drier. For lack of a better term I am going to call this its critical speed.

The test was of a cast iron drier 60 inches diameter by 196 inch face, mounted on anti-friction bearings. The test shows the drier required 6 h.p. at 500 feet face speed when empty, 1.1 h.p. at 1000 feet and 1.35 h.p. at 1500 feet. This demonstrates that the horsepower required to drive an empty drier does not increase in direct proportion to the speed.

The readings for a uniform puddle 1 1/16 inches deep (at the deepest point), the power required to drive the drier was .87 h.p. at 500 feet, 1.3 h.p. at 850 feet, 1.17 h.p. at 900 feet while it required the same power at 1000 feet, 1250 feet and 1500 feet as did the empty drier.

The readings for a puddle 1½ inch deep show the power required was 1 h.p. at 500 feet which was increased slightly for a 2 inch puddle and to 1.5 h.p. for a 2¾ inch puddle. At 1000 feet the power for the 1½ inch puddle was 2.2 h.p., for the 2 inch puddle 2.8 h.p. and 3.2 h.p. for the 2¾ inch puddle.

At 1050 feet the power was maximum for the 1½ inch puddle being 2.3 h.p. and fell off to 1.2 h.p. at 1190 feet while the 2 inch puddle required 4.35 h.p. at 1250 feet and the 2¾ inch puddle 5.5 h.p. at the same speed.

At 1500 feet the 2 inch puddle and puddles of less depth required 1.35 h.p. the same as an empty drier, but at 1400 feet the 2 inch puddle required 5.5 h.p. at which point the power dropped off abruptly to 1.35 h.p. at 1500 feet. The 2¾ inch puddle required 7.75 h.p. at 1525 feet at which speed it dropped abruptly to 1.4 h.p., the same as required for an empty drier.

The maximum horsepower requirement by the drier with the different depths of puddles occurred at the speed at which the water started to go around with the drier. In each case it required a further 100 feet increase in speed for the water to completely level out and distribute itself evenly on the inside surface of the drier.

From this test it is readily seen that the different depths of puddles in driers have different critical speeds at which they spread out and go around with the drier. Below these critical speeds the power required by the drier increases with the speed and with the depth of puddle and above the critical speeds the power quickly reduces to that required by the empty driers.

It is quite apparent that any water whatsoever in a drier wastes power and of course the greater the number of driers the greater the waste.

It is impossible to remove all of the condensate from a drier with a siphon pipe, even at speeds below 500 feet per minute. At higher speeds in the case of a siphon pipe the depth of the puddle increases due to its trying to climb the inside drier wall and above the critical speed when the water turns with the drier, the siphon cuts a path through the water, which piles up in front of the pipe and is forced below the end of the pipe in the wake, thus causing a loss of steam. Then again while an even layer of water revolving with the drier does not require additional power, providing the drier is mounted on anti-friction bearings, it does act as an insulation as water is a poor conductor of heat and will materially lower the drier efficiency. Again when the drier equipped with siphon pipe which has operated above the critical speed is stopped and again started as on Monday morning, the puddle causes hard starting which requires great power for the breakaway and acceleration.

As before stated, the new high speed condensate remover by revolving with the drier removes all of the condensate at all speeds, saving power and steam, and maintains the maximum drying efficiency through the removal of water and air.

Slitters and Winders

The modern winder is probably as automatic as it is possible to design a winder. This machine consists of a water cooled unwinding stand friction. The braking effect is controlled by an air valve located on the winder proper, convenient to the operator. This valve controls the air pressure on a cylinder which increases or decreases the friction, thus giving the proper tension in the sheet passing to the winder. A pressure gauge assists the operator to quickly set and easily maintain the proper tension.

Slitters are individually mounted on small electric motors.

The main winder drums are in most cases made from steel forgings accurately turned and balanced. All bearings on the winder are of the anti-friction type.

The modern winder is equipped with an automatic roll unloader which consists of a hydraulic cylinder on an electric motor which actuates an ejector roll through the medium of heavy gearing. The ejector roll swings in an arc up and from behind the wound roll of paper smoothly and easily rolling it out upon unloading forks which swing up into horizontal position, as the ejector roll moves toward the roll of paper. By pressing a button or the turning of a valve handle the unloading forks lower the roll to the floor or onto several low trucks. It is then rolled out of the way and the shaft is withdrawn. Meanwhile the winder is winding another roll.

All guides for the winder shaft bearings and saw slitter and rider roll bearings (when the winder is so equipped) are provided with adjustment to compensate for wear, thus insuring perfect edges on wound rolls during the entire life of the winder.

An Installation at Panama City

On the two 234 inch high speed kraft machines in the Southern Kraft Corporation's mill at Panama City, Florida, the very latest development in automatic winder equipment has been incorporated. This consists of a mechanism which automatically removes the shaft from the finished roll and returns it to its operating position on the winder without its being handled by the operator. The winders are the same as that described above except they do not have the unloaders. The ejector pushes the wound rolls of paper which are sometimes 60 inch diameter out onto a conveyor table. The winder shaft, which is of course still in the roll, comes in contact with a jaw. This jaw is a part of a stand and is adjustable vertically to accommodate the different diameters of paper rolls. The operator standing on the front side of the winder, where all controls are grouped, presses a button and the conveyor pulls the rolls off of the shaft. Before the shaft is entirely withdrawn from the roll two hooked arms, which are supported by a trolley overhead, swing over and catch the shaft and carry it back to the winder where it is laid in place in its bearings again ready for use.

The value of this development can be more readily appreciated by knowing the fact that in this mill it eliminates the handling by manpower of over three million pounds per day when making counter rolls.

Magnetic Clutch

Some time ago it was decided to build a magnetic clutch that would have a number of additional advantages thought necessary for paper mill service. The aim of the engineers was to design a clutch which was adapted to the use of one or more discs so that clutches of large capacity would not necessarily be large in diameter. They wanted to create a clutch having a series of coil springs which, when the clutch was de-energized, would thrust the driving discs away from the lining, thereby eliminating unnecessary wear and heating. They wanted to design the clutch so that it could be slipped for long periods without overheating. They wanted to design a magnetic clutch which could be quickly and easily adjusted. They also wanted to design a clutch which would not depend upon driving pins to transmit the power delivered by the clutch as that design has continually been a source of trouble with most clutches in the past.

Important Features

The design of the new Beloit magnetic clutch includes all of these important features. The clutch is made up in single, double and triple disc units, thereby providing large horsepower capacity without the necessity of using extremely large clutch diameters. The clutch has a fan built in as part of the main housing, thus drawing a large volume of air through the springs and across the discs thereby keeping temperatures low, which results in long life of all parts. During test one of the new clutches was slipped continually under 60 per cent of full torque for periods of 1½ hours duration without overheating.

The clutch is adjusted in a minute's time by pulling out two locking pins and by turning a large screw hub with a rod inserted into one of several holes in the hub. The proper gap is readily checked.

Desirable Drive

Gear teeth is the medium through which torque is delivered from the discs to the two halves of the clutch. This method entirely eliminates all binding and freezing of co-working parts.

Hypoid and spiral bevel gear units together with the new magnetic clutches and enclosed silent chain drier drives with their ruggedness and reliability and smooth operation make a very desirable drive combination for modern high speed paper machines and like the new rubber covered suction press rolls, balanced steam fittings and high speed water removers, contribute in no small measure to the reduced manufacturing costs of many mills today.

TAPPI Lake States Section Meets

The monthly meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry was held on April 12th at the Conway Hotel in Appleton, Wisconsin. About 125 pulp and paper mill men attended and Otto Kress, chairman, presided.

Allen Abrams, technical director of the Marathon Paper Mills, and president of the Technical Association, gave a short talk on the subject of "Tappistry." He reviewed the origin and history of the association which now has members in all of the major papermaking countries, and has grown from a small group of a hundred or more men to about 1,400 in the relatively short span of its existence, and particularly its recent rapid growth has reflected the trend of appreciation by the industry of the value of technical supervision and development.

Mr. Abrams stressed in particular, the special reports issued by the association on manufacturing problems. These reports deal with mill operation and in their entirety constitute a wealth of information on the problems faced by technical men, managers, and mill superintendents. Although these reports are not published in the trade press, they are issued to the association's company members and to those who contribute information in response to the inquiry when sent out. It is doubtful if many companies receive reports from outside their own organizations that are of more intrinsic value.

The new divisional plan of the association was also described. The ultimate result of the association's activities based on division and committee work will be a thorough and extremely valuable analysis of every phase of pulp and paper manufacture.

P. M. Foster of the Beloit Iron Works read a paper on "Recent Trends in the Design of Paper Machines and Equipment." Mr. Foster's paper is published in full in the Technical Section of this week's issue of the PAPER TRADE JOURNAL, which begins on page 42.

Kalamazoo TAPPI Meets

The Kalamazoo Valley Section of the Technical Association of the Pulp and Paper Industry met at the Columbia Hotel, Kalamazoo, Mich, on April 13th. E. Frank Whittington of the Sutherland Paper Company presided.

D. W. McCready of the Chemical Engineering Department of the University of Michigan discussed "Unit Operations in the Paper Mill." This paper dealt with such unit chemical engineering processes as drying, heat transfer, air heating, humidification and extraction and pointed out the real need in the industry for real engineering research efforts to make these processes efficient and economical.

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

Edited by Thomas J. Burke C. A. Director Cost Dept.

The Application of Machine Accounting To Receivables*

P. J. Mayle[1]

Our corporate structure requires the maintenance of two factory and six general ledgers; one general ledger for the parent company and the remainder for the subsidiary, or selling, companies and divisions which sell and distribute our products to dealers and distributors.

In our accounting procedure an endeavor has been made to unify all accounting operations, with the aim of obtaining required information efficiently and economically. At the present time we are compiling our general accounting records sales journal, cost of sales, manufacturing records, sales and operating statistics, and accounts receivable on electrical tabulating machines. The accounts receivable is a comparatively recent application of tabulating equipment, as this method was just started a year ago; but the other applications have been in operation for a number of years.

As all bookkeeping is done in the general office, it is possible to record all items affecting each of our various ledgers through one channel.

Standard Chart of Accounts

A Standard chart of accounts, uniform in all ledgers, is in use, in which all accounts are grouped according to balance sheet classification, and are coded in numerical sequence. For example: cash is code number eleven, and the particular description is designated by a sub-account number such as 11.1 cash in banks; 11.2 cash in imprest funds, etc. The nominal, or profit and loss accounts are also grouped and coded in the common order of an earning statement. Each ledger has its respective code number which designates the ledger affected by the entry.

There are five major sources of entry to the ledger accounts; namely, accounts payable vouchers, expense vouchers, accounts receivable, journal entries for various allowances, etc., to customers, payrolls, and regular ledger journal entries which are used to record the distribution of the cash receipts books, cash disbursements books, etc. All of these documents are coded individually in a space provided on the forms, and controls are maintained by adding machine tallies of each group of entries. Each document is numbered serially by its classification, to insure ready identification after recording.

Coding for General Ledger

At the time coding is done for the general ledger accounting, information pertinent to statistics is also shown. It is necessary, for instance, to segregate our selling expense by departments, and to further segregate it by locations in order to obtain a concise picture of the result of operating each distributing unit.

After the documents have been coded and the respective totals entered in a control book, tabulating cards are punched and balanced in total with the control. At the close of each month the cards are sorted by ledgers first, according to credit accounts, and a listing is made for each ledger on a printing tabulator showing the total of the credits to each account. The cards are then sorted by ledgers according to debit accounts and a similar listing made. The total credits to all ledgers and the total debits to all ledgers balance, and the difference between the debits and credits on each individual ledger represents, of course, the inter-company, or "inter-ledger" transaction.

In this manner we secure the entry which is actually posted in the general ledger, as well as essential statistical information.

In our factory accounting, we use a standard cost system. Standard costs are prepared, based upon prescribed specifications, time studies and budgeted burden.

The billing to customers for merchandise sold may be made from any one of twenty billing points throughout the country. A copy of each invoice is mailed to the general office, where a control is maintained by sequence of invoice numbers. Considerable billing is also actually made in the general office, as many of our customers are served by shipments direct from the factory.

All Bookkeeping in General Office

However, all bookkeeping is performed in the general office, regardless of the billing point.

At the time a customer places an initial order for merchandise, a registration card is prepared showing name, address, credit limit, terms, and customer's number. A copy of each card is on file in the general office.

The customer's number is assigned by the accounting department, and follows an established code. There are five digits allotted; the first two represent the district in which the customer is located, and the last three identify the customer. These last three digits are assigned in blocks according to alphabet—the Letter A for example may run from 001 to 150; B from 151 to 300, etc. By

* N.A.C.A. Bulletin.

[1] Accountant, Ajax Rubber Co., Racine, Wis.

allowing three or four numbers for each district we believe we have sufficient flexibility in our code to take care of considerable expansion.

Upon receipt of an order, reference is made to the registration card to verify the fact that the customer is an authorized dealer, and at this time the terms, customer's number, and salesman's number are written on the order. As a combination delivery order and invoice form is in use, this information is automatically shown on the invoice.

Standard Costs in Each Invoice

On completion of the invoice, the office copies are sorted by districts, or ledger controls, and an adding machine tally made for each district and the total entered in a control book. *Standard costs are then put on each invoice, and extended, so the gross profit on each billing is readily discerned.*

By properly designing our accounts receivable and sales distribution tabulating cards, and the use of duplicating key punches, it has been possible to punch both cards with but a slight increase in the time formerly required for the one card. In fact, the addition of accounts receivable on the tabulator required no increase in our tabulating department.

Our sales distribution card shows customer's number, invoice date, invoice number, billing location, class of sale, shipping point, cost of sale and sale.

At the close of each month, we obtain information from these cards enabling us to make our sales entry and cost of sales entry. We also obtain the shipments made from our various stock locations, as well as purchases made by each customer by class of sale.

Our accounts receivable card shows customer's number, invoice date, invoice number, billing location, code (designating the nature of the charge or credit), date due for payment, debit amount, and credit amount. After punching, these cards are run through the tabulator and the totals checked against the tally of the billing. The cards are then filed in the regular accounts receivable file. A tab card is permanently filed in the accounts receivable file showing the customer's number on the tab and an addressograph plate impression on the face which shows the customer's name and address.

Cards Sorted by Dates

Before preparing statements, the cards for each customer are sorted by due dates—the oldest due date first. We are required to make six copies of customer's statements, and use a fanfold form with interleaved carbon. When a set of statements is inserted in the tabulating machine, it is so set up that the customer's number is the first thing to print; then each item is listed by due date, the total shown for each due date, and the grand total of the customer's indebtedness shown as the last figure. We find that it takes thirteen seconds to run a full-page open item statement showing the totals in this manner. The statements are then addressographed and mailed in window envelopes.

When cash is received, a remittance slip is written up showing the items paid, and a credit accounts receivable card punched for the total credit to accounts receivable. When the entry is made in the cash receipts book deductions for cash discount, etc., are charged to the proper accounts. The cash accounts receivable tabulating cards of course are checked in total with the credit to accounts receivable in the cash receipts book daily.

Instead of filing the credit tabulating card in the accounts receivable file, the charges paid by the remittance are removed, and the debit cards, together with the offsetting credit, are filed in a "dead" file. As a result, the accounts receivable file contains only unpaid items.

In principle, this system is comparable to the simple sales slip register commonly used in grocery stores, where a file of slips covering purchases is maintained until payment is made, at which time the slips are removed.

The Only Objection

The only objection so far apparent is the fact that when a credit balance appears in a customer's account the tabulator prints the complement. To overcome this feature, it is necessary to cross out such balances in pencil and write in the correct credit balance by hand. However, the percentage of credit balances is very low, and we feel that this inconvenience is outweighed by the fact that we are able to get open item statements segregated by due dates quickly and economically. And if we do slip and let a credit balance get by without interpreting the complement the customer feels so flattered to think he owes $999,000.00 that he doesn't object—much.

After completing the statements each month, the cards are sorted by due dates only, and a break-down of the balance in accounts receivable is obtained by due dates. Including the time required in sorting back by customers, this operation takes from five to seven hours.

Unemployment*

Problems Created by Evolution of Society Demand Solution

By T. F. Tilton

Of all the major economic maladjustments resultant from the current depression, the unemployment and the closely allied wage problems come first among the problems which we have termed "personal" in these monthly discussions—personal because of their direct effect upon the every-day existence of millions of individuals.

Shrinkage in the value of investment holdings, shrinkage in the value of real estate holdings and even loss of savings —all these the average person can face with a "grin and bear it" attitude, but decrease in, or entire loss of, wage income is another matter, for the loss of a job or a sharp decline in wages has a direct bearing upon the securing of the very fundamentals of existence.

Those of an older generation who recall the dark days of depressions during the 19th century tell us that there is no such suffering apparent today as was observed in the 70's and the 90's. There is no bloodshed, there are no interminable bread lines, they say.

Much Remains To Be Done

Unquestionably, the care of the unemployed by their more fortunate fellow citizens is much more thorough, much better organized today than it was during former periods of depression. This fact, however, does not efface the other fact that an immense volume of unemployment

* Economic Trends.

and a vast amount of want exist at the present time in this supposedly enlightened age of economic progress.

It is a sad commentary upon the efficacy of the capitalistic economic system of the day that it cannot avoid, in some degree at least, the excessive swings in the business cycle which in the past have proved so disrupting. Perhaps it is unfair to place all of the blame for present trade and industrial difficulties upon the capitalistic system itself, for it is by now well recognized that the present depression had its inception in influences born during the world war period and those influences were largely political rather than economic. Nevertheless, it would seem that a larger degree of cooperative business leadership might have averted some of the distresses which have developed during the past two years.

Employers Recognize Responsibility

These distresses have occurred, however, and there is little that can be done about them insofar as the present depression is concerned except to alleviate them to the greatest possible extent. This much may be said—that employers today in a larger measure than ever before recognize that they have some responsibility, individually and collectively, for the welfare of their employees, present and former, and are contributing more than ever before to relief work.

In short, the old idea that capital owes all to the owners of capital—that is, to investors—and nothing to labor has been replaced by a recognition that the welfare of capital is bound up with the welfare of labor and that capital owes something to labor as well as to the owners of capital. This recognition in recent years has taken practical form in various unemployment insurance plans promulgated by individual corporations, in old age pension programs, in group insurance underwriting by employers for their employees, and in numerous other ways.

New Conditions Call For New Methods

All of these efforts, developed haphazardly, have been moves in the right direction—toward providing workers with a larger assurance of safety as to employment, or, in the event of unemployment with greater assurance as to continuance of income, at least in part.

More than this, however, is needed in the way of protection. Disposition persists in some quarters to view with suspicion any concerted efforts toward unemployment insurance and allied programs intended to provide income protection for wage earners as being socialistic in conception and therefore to be avoided. This attitude fails to take into consideration the evolution of society from a primitive stage into a highly complex economic structure.

In times several generations past, all enterprise was much more individual, much less intricate than it is today. To elaborate briefly, in those times the average individual was much more independent, economically, than he is in the present day—he could depend for his income (or his existence) upon his own labors and resources in much larger degree than is possible today. The changes in individual economic independence have been wrought by the development of large scale business enterprise and by the machine age.

Workers Constitute Purchasing Power

Today, for instance, the average factory worker knows how to do but one type of work and, lacking the opportunity to do that work in return for income with which to purchase the necessities of life, he cannot make his own clothing from material which he has produced himself, he cannot raise his own food products. He is, in short, helpless except to such extent as he has funds saved during periods of work or as aid is given him.

This, of course, is a broad generalization of the present day status of industrial workers. But it supports the contention that as industry has made workers less dependent upon their own resources and more dependent upon the industries for which they labor, so has the responsibility of industry towards its employees increased. This responsibility, furthermore, has developed from a selfish as well as an altruistic viewpoint, for industry today recognizes that the purchasing power for the products which it makes comes largely from its own workers and that stoppage of this purchasing power is highly undesirable.

Preventive Measures Necessary

Granted, then, that industry has a responsibility toward its employees to provide as steady work as possible, it becomes obvious that there are vicious faults in an economic system which will allow any such volume of unemployment as exists today, for such an economic system does not permit industry to meet its responsibility.

What, then, is to be done? Times such as these develop a vast number of suggested remedies for all evils. It is not our purpose to make specific remedial suggestions for any existant economic problems, except as such suggestions reflect a majority opinion among sound thinkers—as in connection with the banking situation, concerning which opinion generally favors a revision of banking laws, in various directions.

Very apparently, something should be done to alleviate, in future periods of business recession, unemployment on such a vast scale that millions of persons are affected, directly and indirectly. There are those who maintain—and they are undoubtedly correct in their attitude—that unemployment cannot be entirely prevented during business recession periods. On the other hand, the evils of unemployment might be alleviated to a great extent through concerted advance action.

Stability Should Be The Aim

What such action should be, no one knows. The only concrete suggestion of a national program concerns unemployment insurance, which would assure workers of some income during periods of enforced idleness. Opponents claim that this is a dole under another name. Proponents are divided into two camps—the one would have compulsory unemployment insurance under governmental regulation, the other would have such insurance provided voluntarily by industry. Other proposals for better management of the national unemployment situation include a federal system of employment offices more comprehensive than the one now operative, and various vague suggestions, too numerous to list here.

Clearly, the unemployment problem is not easy of solution. Defects in the banking system can largely be corrected by legislation, other problems can be solved in part by governmental or co-operating private agencies. The employment problem, however, is an intangible problem despite its very tangible effects and is not subject to as facile consideration as could be wished. Nevertheless, economic leaders of the country should bend every effort to devise ways and means of developing greater stability in employment conditions, or, at least, a greater stability in the incomes upon which workers depend for a livelihood.

Wages and Commodity Prices

This brings up the problem of wages, so closely allied with that of employment. During periods of prosperity wages always edvance, generally speaking. In all past periods of depression the general level of wages has declined. During the present period of depression, probably

as an aftermath of the "new thought" era of 1928, and 1929, the theory was developed that wage rates should be maintained to the end that real living standards might be raised. That is, it was argued that if wages were maintained while commodity prices were decreasing, purchasing power generally would be increased, to the benefit of industry as well as workers.

This theory sounded well but in practice has not worked well, with the result that during the past six months wage rate reductions have become general. These have not progressed to the point, however, where they have more than offset commodity price reductions, with the result that a worker receiving a full week's pay is today really better off than he was two years ago. On the other hand, very few workers are now being employed as many hours per week as was the case in 1929. This is a temporary situation, effective for the duration of the depression, but it has aggravated the reduction in wage incomes resultant from wage cuts.

Necessary To Reduce Costs

Enlightened industries in this day and generation wish to pay their workers as generously as possible for their labors. But every corporation operates on invested funds and the investors of those funds must be treated as fairly as employees. Wages, therefore, must fairly be based upon what a corporation can pay without losing money for any length of time to the impairment of its capital and its credit. If there were no industrial competition, it would be possible to establish wage rates considered equitable and then charge accordingly for the finished product. Unfortunately, however, competition does exist and the result of this competition, particularly in depressed times, is to depress prices of commodities, with the inevitable result that production costs must be reduced accordingly all along the line. And one of the most effective ways of lowering production costs is to lower wages.

The best that can be hoped for at times such as the present is that wage rates will not, in general, decline to a greater extent than living costs, thereby assuring a maintenance of living standards.

This discussion of the employment and wage problem is a very brief outline of a problem to which volumes might be devoted.

Transfer Property to Upco Corp.

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., April 11, 1932—A transfer of the entire property of the United Paperboard Company to the Upco Corporation has been recorded in the county recorder's office at Wabash, Ind. Sidney Mitchell, former president of the United Paper Board and William Stuhr, both of New York, have been named receivers to represent the new corporation.

H. D. Newell, manager of the Wabash plant, said the action was necessary to protect some of the property located in communities where it had been found impossible to obtain banking credit. He said it would have no effect on the Wabash plant, which is one of the largest producers of the company.

The Wabash plant has been operating six days a week during the last two years compared with the seven-day week in vogue during normal times. The first week of March 1 this year was the only time the plant had been out of operation entirely and this was for necessary machine repairs.

Newell said he understood the receivers planned to close some of the smaller plants which have not been operated profitably and transfer the business formerly handled by these plants to the larger factories.

Obituary

John G. Jones

[FROM OUR REGULAR CORRESPONDENT]

TICONDEROGA, N. Y., April 18, 1932.—John G. Jones, for many years prominently connected with the pulp and paper industry of this section, died this week at the Albany City Hospital following an illness of several months. He was 70 years old.

After leaving college he started on his career as chemical engineer with the Ticonderoga Pulp & Paper Co., but in 1894 he resigned to become a partner in the firm now operating as the Carthage Machine Co. He was the inventor of apparatus used in the making of pulp and paper and also marketed digesters for the manufacture of chemical pulp.

He was also prominent in politics and served a number of terms in the State Legislature during which he accomplished considerable towards the welfare of Northern New York.

Humphrey E. Slocum

BEAVER FALLS, N. Y., April 18, 1932.—Humphrey E. Slocum, pioneer paper mill man of Northern New York, died this week following an illness attributed to his advanced age. He was 83 years old. For a number of years he was also prominent in political circles and served several terms as an Assemblyman from Lewis County.

He had resided here since 1892 when he acquired an interest in the firm of Lewis, Slocum & Lefevre. The business prospered until a few years ago when it was absorbed by the J. P. Lewis Company. Since disposing of his interests the deceased had lived a retired life.

Mr. Slocum was also prominent in the affairs of the Lewis County Agricultural Society and was vice president at the time of his death. He was also prominently identified with numerous other fraternal organizations.

Polish Paper Manufacturers Form Syndicate

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 6, 1932—Negotiations for the formation of a Polish paper syndicate which included all firms now manufacturing paper in Poland as members, have recently been completed and the new organization will begin its activities early in April according to a report to the Department of Commerce from Commercial Attache Clayton Lane.

Organization work is now in full swing according to the report, but details of the work to be undertaken have not yet been made public. It is indicated in paper trade circles that in most instances the prices now prevailing will remain the same. An increase in the price of wrapping paper is said to be among the few proposals now in hand to increase prices.

Canadian Corporation Changes Name

WILMINGTON, Del., April 4, 1932—Paper Makers Chemical Corporation, Ltd. is the new name of the former Vera Chemical Company of Canada, Ltd., according to an announcement from the Freeman, Ontario office of the corporation.

The Canadian corporation is affiliated with Paper Makers Corporation in the United States. The latter is now a unit of the Hercules Powder Company, Wilmington, Del.

The Paper Makers Chemical Corporation deals in rosin size, satin white, paper fillers, sulphonated tallow, foam killers, sulphonated oils, and felt soap.

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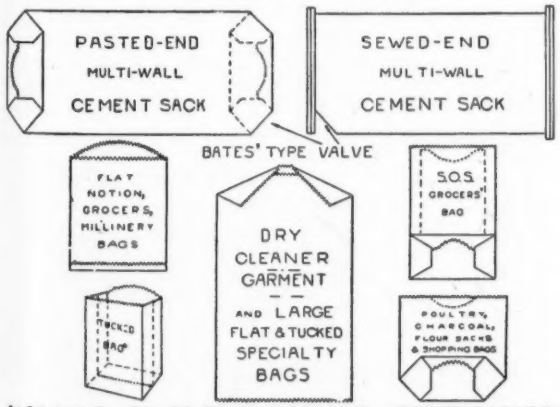

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New Paper Machinery Company Formed

The Allen Paper Machinery and Engineering Works, Inc., Glens Falls, N. Y., has been formed for the purpose of manufacturing and selling APMEW Proportioning and Metering Systems, APMEW Recording Consistency Regulator, and APMEW Recording Paper Stuff Regulators.

The incorporators are C. H. Allen, H. D. Wells and V. H. Wells. C. H. Allen is the primary inventor of the Continuous Proportioning and Metering Process and Apparatus for preparing paper stuff, and was formerly one of the owners of Trimbey & Allen Machine Works, now known as Trimbey Machine Works. H. D. Wells is president and general manager of the American Paper Machinery and Engineering Works, Inc.; the associated company which also manufactures APMEW machinery. V. H. Wells is the secretary and treasurer of American Paper Machinery and Engineering Works, Inc.

Under contracts with the co-owners (E. J. Trimbey, C. H. Allen, and Great Northern Paper Company) of the Continuous Proportioning and Metering Process Patents (nine patents and other patents pending), the Allen Paper Machinery and Engineering Works, Inc., has full rights to license users and to manufacture APMEW Proportioning and Metering Machines, and the Beadle Measuring System, and other Proportioning and Metering Systems.

Exclusive rights to license users for the direct application of continuous proportioning and metering systems to paper machines have been transferred to the Allen Paper Machinery and Engineering Works, Inc., under contracts with C. H. Allen, owner of the patents and direct application. Trimbey Machine Works had this exclusive right for the past years, until April 1, 1932, at which time it was cancelled and transferred to the new corporation. The following paper mills, many of them recently built, use the direct application of the continuous proportioning and metering system to their paper machines:

Maine Seaboard Paper Company, Bucksport, Me.	Two systems
Ste. Anne Paper Company, Beaupre, P. Q.	Two systems
Manitoba Paper Company, Pine Falls, Manitoba	Two systems
Murray Bay Paper Company, Murray Bay, P. Q.	Two systems
New Brunswick International Paper Company, Dalhousie	Two systems
Fraser Paper, Ltd., Madawaska, Me.	One system
A. P. W. Paper Company, Albany, N. Y.	Eleven systems
Escanaba Paper Company, Escanaba, Mich.	Two systems
Abitibi Pulp and Paper Company, Sturgeon Falls, Ont.	One system
Bogalusa Paper Company, Bogalusa, La.	Two systems
Hennepin Paper Company, Little Falls, Minn.	One system

APMEW Proportioning and Metering Systems have accurate, non-leaking meters for maintaining exact and accurate proportions and correct measuring; and their flexibility permits easy adjustability, with minimum waste, from one furnish to the next. They are entirely made of metal with many joints electrically welded, and parts other than bronze in contact with stock are coated with Acid Seal Rubber. Anti-friction bearings are included throughout. Spiral bevel gears are totally enclosed in oil tight housings. Mixing agitators are provided. Improved float valves are included, together with other improvements. These machines are beautifully designed and will produce better paper stuff and better paper with greatest dependability; mechanically these machines will please the engineer and mechanic.

APMEW Recording Consistency Regulator is a precision machine and has many outstanding features for closer and more accurate regulation. This machine is complete to the minutest details, eliminating all need of additional parts being made at the mill, and is shipped completely assembled ready to connect to the mill piping. It includes all the scientific principles necessary to accurate regulation.

APMEW Direct Continuous Proportioning, Metering and Hydrating System produces better paper and effects great economy. It is located near the wet-end of the paper machine and simplifies the paper stuff preparing system. The virgin pulps are circulated to the wet end of the paper machine, where they are metered and proportioned with color, clay, size, alum, etc.; and the stuff is then continuously hydrated to the desired quality and formation. This process is applicable for all kinds of paper and saves labor, saves enormous amounts of power, saves the use of much obsolete equipment, and saves large building space.

Transfering Water Power Rights

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARDS, N. Y., April 4, 1932.—A transaction of importance was recorded this week at the county clerk's office when a certificate was filed denoting the transfer of all property and water rights of the International Paper Company in connection with water power development in this village to the Eastern Developments, Inc., which maintains its principal offices in New York City. The deed states that the company for a consideration named, grants and releases to the Eastern Developments, Inc., all lands, lands under water and rights in land located in this village and in Moreau in Saratoga country. Permisssion is also given to use existing and future roads, railroads and sidings owned by the paper company providing the latter may at any time relocate or abandon any or all of the same. The indenture was signed by N. C. Head, vice president of the International Paper Company, and I. L. Moore, vice president of Eastern Developments.

At the same time another certificate known as the Lake George-Ticonderoga lease was filed denoting an agreement between the Ticonderoga Pulp and Paper Company and the System Properties, Inc., for the lease for a period of thirty years all interest in land, lands under water and rights in lands in the counties of Essex, Warren and Washington, and all water power rights thereon.

Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., April 18, 1932—"Specifications as a Safeguard" is one of the features of the April "How," published by Tileston & Hollingsworth and edited by A. V. Howland. The April number contains several other inspirational articles of help to the printer. "How," discusses "Crinoline for Spring," with samples of this paper in white and six colors attached to the copy. Analyses of the April sheet of the 1932 Tileston & Hollingsworth Celendar are included. The issue is printed on Crinoline Text, Wove Antique, White, with Crinoline Cover, Green.

The Middlesex Products Company is about to put on the market a new line of bright-colored metallic paper, for box-covering purposes, to be known as Metal-Mode. Sample books are to be sent to the trade.

The Salem Paper Company, Salem, Mass., has been incorporated with a capital stock of $100,000; 1,000 shares $100 each. The incorporators are: Solomon Ablovich, president; Benjamin Ablovich, 74 Federal street, Salem, treasurer, and Eva Ablovich.

Norwegian Pulp and Paper Exports

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 20, 1932.—February exports of Norwegian paper and pulp were generally above those of either January or February of last year. An exception was shipments of ground wood totaling 41,596 tons. This figure represents an increase of 38 per cent over February of last year, but a decrease of nearly 12 per cent compared with January.

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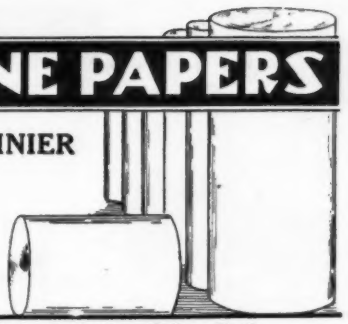


THE WATERBURY FELT CO.
SKANEATELES FALLS, N.Y.

West Virginia Pulp and Paper Company

Manufacturers of

SUPERCALENDERED and MACHINE FINISHED BOOK and LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Cover and Music Paper, Index Bristol, Post Card and Label Papers

High Grade Coated Book

also

KRAFT WRAPPING AND KRAFT ENVELOPE

Bleached Spruce Sulphite Pulp, Soda and Kraft Pulp

230 Park Ave. New York — 35 East Wacker Drive Chicago

503 Market St., San Francisco, Cal.
Sixth and Chestnut Sts., Philadelphia, Pa.

1864 1932

"EXCELSIOR" FELTS

for every grade of

PULP AND PAPER

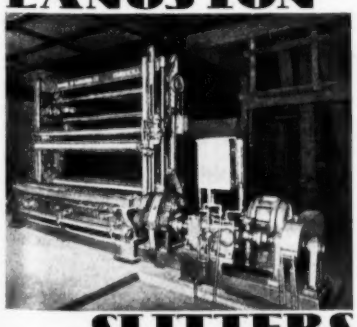
We continue to maintain at the top the quality of Excelsior Felts, as we have done since we, as pioneers, made the first endless paper machine felts manufactured in America

Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
Send us your felt problems.

KNOX WOOLEN COMPANY
CAMDEN, MAINE

SOLD BY
BULKLEY, DUNTON & COMPANY
75-77 Duane St., N. Y., and direct

LANGSTON



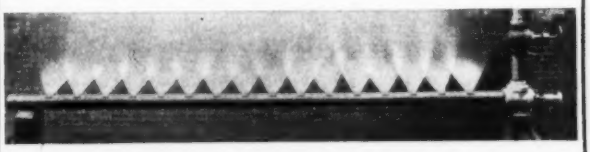
SLITTERS

The heavy-duty Langston Slitter can be had in any width, to wind any diameter. Use it as a winder or as a rewinder. Speeds up to 3000 feet per minute. Makes rolls of uniform density, square-edged. Langston's Shear-Cut makes no dust—the paper is *clean-cut*, not ground apart. A catalog is yours for the asking.

SAMUEL M. LANGSTON CO., Camden, N. J.

"M & W" CRISS CROSS SHOWER PIPES

"WILL NOT RIDGE THE WIRES OR MAKE STREAKS"



FOR PAPER MACHINE WIRES, FELTS AND SCREENS

THE MOORE & WHITE COMPANY
Paper Mill Machinery Philadelphia, U. S. A.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

SUMMARY

WEEK ENDING APRIL 16, 1932

Cigarette paper	575 cs.
Wall paper	2 bls., 27 cs.
Paper hangings	1 truss, 4 bls., 2 cs.
News print	702 rolls
Printing paper	67 rolls, 19 bls., 27 cs.
Wrapping paper	5 cs.
Filter masse	40 bls.
Filter paper	58 bls., 19 cs.
Drawing paper	1 cs.
Metal coated paper	115 cs.
Surface coated paper	27 cs.
Basic paper	2 cs.
Decalcomania paper	11 cs.
Colored paper	1 cs.
Tissue paper	10 cs.
Envelopes	8 cs.
Writing paper	4 cs.
Gummed paper	1 cs.
Paste board	27 cs.
Card board	25 cs.
Miscellaneous paper	6 cs.

CIGARETTE PAPER

P. J. Schweitzer, Pr. Garfield, Marseilles, 10 cs.
Brown & Williamson Tobacco Co., Mauretania, Southampton, 15 cs.
Standard Products Co., Lafayette, Havre, 130 cs.
American Tobacco Co., Lafayette, Havre, 200 cs.
Champagne Paper Corp., Lafayette, Havre, 10 cs.
Champagne Paper Corp., Sarcoxie, Havre, 225 cs.

WALL PAPER

Guaranty Trust Co., A. Ballin, Hamburg, 26 cs.
Globe Shipping Co., A. Ballin, Hamburg, 1 cs.
F. A. Binder, A. Ballin, Hamburg, 2 bls.

PAPER HANGINGS

W. H. S. Lloyd & Co., Amer. Merchant, London, 4 bls.
Whiting & Patterson Co. Inc., Mauretania, Southampton, 2 cs., 1 truss.

NEWS PRINT

Jay Madden Corp., Dresden, Bremen, 147 rolls.
Gilman Paper Co., Blankaholm, Norrkoeping, 274 rolls.
Brooklyn Times, Blankaholm, Norrkoeping, 281 rolls.

PRINTING PAPER

Jay Madden Corp., Dresden, Bremen, 19 bls., 67 rolls.
P. C. Zuhlke, Dresden, Bremen, 27 cs.

WRAPPING PAPER

Keller Dorian Paper Co., Mauretania, Southampton, 5 cs.

FILTER MASSE

A. Giese & Son, A. Ballin, Hamburg, 40 bls.

FILTER PAPER

H. Reeve Angel & Co. Inc., Amer. Merchant, London, 9 cs.
H. Reeve Angel & Co. Inc., Mauretania, Southampton, 10 cs., 58 bls.

DRAWING PAPER

J. J. Murphy & Co., Mauretania, Southampton, 1 cs.

METAL COATED PAPER

K. Pauli Co., Dresden, Bremen, 48 cs.
K. Pauli Co., A. Ballin, Hamburg, 67 cs.

SURFACE COATED PAPER

P. C. Zuhlke, Dresden, Bremen, 12 cs.
Gevaert Co. of America, Coahoma County, Antwerp, 14 cs.
Globe Shipping Co., A. Ballin, Hamburg, 1 cs.

BASIC PAPER

——, Coahoma County, Antwerp, 2 cs.

DECALCOMANIA PAPER

C. W. Sellers, Bremen, Bremen, 5 cs.
Phoenix Shipping Co., Bremen, Bremen, 3 cs.
B. F. Drakenfeld & Co., Antonia, Liverpool, 3 cs. (duplex)

COLORED PAPER

J. Beckhard & Co., Bremen, Bremen, 1 cs.

TISSUE PAPER

F. C. Strype, Antonia, Liverpool, 5 cs.
W. J. Byrnes, Mauretania, Southampton, 5 cs.

ENVELOPES

J. Beckhard & Co., Bremen, Bremen, 4 cs.
Simfred Co., A. Ballin, Hamburg, 4 cs.

WRITING PAPER

M. Picciotto, Mauretania, Southampton, 4 cs.

GUMMED PAPER

Meadows Wye & Co., Amer. Merchant, London, 1 cs.

PASTE BOARD

L. C. Piver, Lafayette, Havre, 8 cs.
Coty Processing Co., Lafayette, Havre, 29 cs.

CARD BOARD

A. H. Smith, Lafayette, Havre, 25 cs.

MISCELLANEOUS PAPER

Corn Exchange Bank Trust Co., Katsuragi Maru, Kobe, 1 cs.
Irving Trust Co., Katsuragi Maru, Kobe, 3 cs.
Iwai & Co., Katsuragi Maru, Kobe, 2 cs.

RAGS, BAGGINGS, ETC.

Irving Trust Co., Lorain, Havre, 35 bls. rags.
J. Cohen & Son, Amer. Merchant, London, 22 bls. rags.
Darmstadt Scott & Courtney, Sarcoxie, Dunkirk, 84 bls. bagging.
E. J. Keller Co. Inc., Sarcoxie, ——, 18 bls. flax waste.
Castle & Overton Inc., Nyhaug, B. Ayres, 14 bls. khaki cuttings; 174 bls. hessian scrap.
Bank of N. Y. & Trust Co., Ingria, Barcelona, 174 bls. rags; 148 bls. tares.
Banco Coml Italiane Trust Co., Cabo Tortosa, Genoa, 48 bls. rags.
S. Birkenstein & Son, Cabo Tortosa, Barcelona, 103 bls. rags.

OLD ROPE

E. J. Keller Co. Inc., Amer. Merchant, ——, 72 coils.
——, Ingria, Barcelona, 38 bls.

WOOD PULP

Lagerloef Trading Co., Carlsholm, Hango, 2427 bls. sulphite; 714 bls. sulphate; 260 bls. mechanical pulp.
Castle & Overton Inc., Carlsholm, Hango, 987 bls. sulphite.
Castle & Overton Inc., A. Ballin, Hamburg, 1255 bls. wood pulp, 251 tons.

PHILADELPHIA IMPORTS

WEEK ENDING APRIL 16, 1932

Katzenstein & Keene Inc., Lorain, Dunkirk, 83 bls. rags.
Castle & Overton Inc., Coahoma County, Antwerp, 108 bls. rags.
Transatlantic Animal By-Products Corp., Coahoma County, Antwerp, 100 bags glue stock.
Allen F'd'g Co., Coahoma County, Antwerp, 97 bls. rags.
E. J. Keller Co. Inc., Coahoma County, ——, 54 bls. rags.
Irving Trust Co., Cabo Tortosa, Barcelona, 130 bls. rags.
——, Cabo Tortosa, Marseilles, 136 bls. rags.
N. Y. Trust Co., Katsuragi Maru, Kobe, 225 bls. rags.
E. J. Keller Co. Inc., Cabo Tortosa, ——, 177 coils old rope.
E. J. Keller Co. Inc., Capulin, ——, 52 bls. rags.
E. J. Keller Co. Inc., Ala, ——, 70 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING APRIL 16, 1932

Congoleum Nairn Co., Sarcoxie, Havre, 99 bls. rags.

NORFOLK IMPORTS

WEEK ENDING APRIL 16, 1932

Darmstadt Scott & Courtney, Sarcoxie, Dunkirk, 60 bls. bagging.

BOSTON IMPORTS

WEEK ENDING APRIL 16, 1932

True & McClelland, Coahoma County, Antwerp, 780 bls. rags.
French Worsted Co., Coahoma County, Antwerp, 23 cs. paper tubes.
1st National Bank of Boston, Coahoma County, Antwerp, 10 bls. rags.
American Express Co., Coahoma County, Antwerp, 2 rolls wrapping paper.
Andrews Paper Co., Coahoma County, Antwerp, 2 cs. paper.
——, Coahoma County, Antwerp, 21 bls. rags.
McLaughlin & Freeman, Blankaholm, Gothenburg, 6 bls. paper board.
J. Anderson & Co., Blankaholm, Gothenburg, 1000 bls. sulphite.
Perkins Goodwin & Co., Blankaholm, Gothenburg, 254 bls. sulphate.
Lagerloef Trading Co., Blankaholm, Hango, 4478 bls. sulphate; 3813 bls. sulphite.

An Efficient Slime Remover

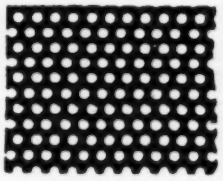
Magnuson Products Corporation, of Brooklyn, N. Y., are manufacturers of XCEM No. 70 Slime Remover, specially prepared for paper mills. This method has proved exceptionally efficient for cleaning paper making systems, gravity type and water filters, floors about paper making machines, suction couch rolls, suction boxes during paper making, American stock filters of the segment type, slime from head boxes during the wash-up period, Feine filters, water sumps, etc.

In addition to XCEM No. 70, the Magnuson Products Corporation also produces other formulae for slime removal. In some cases, due to peculiar local conditions, these other formulae produce excellent results at lower cost. Magnuson Products Corporation also manufacturers XCEM Felt Soap for washing paper making felts.

A booklet giving general instructions for the use of XCEM No. 70 Slime Remover and XCEM Felt Soap, will be sent upon request to the Magnuson Products Corporation, Brooklyn, N. Y.

Perforated Metal Screens

For Pulp and Paper Mills



STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.

".065" Round

CHARLES MUNDT & SONS

63-65 FAIRMONT AVE. JERSEY CITY, N. J.

PERMANENT COLORS

Browns Greens Reds Yellows

BROWNS
Oxides of Iron
Turkey Umbers

GREENS
Chromic Oxides
Guignet's Green

REDS
All types and shades of Oxides of Iron

YELLOWS
Ochres
Iron Hydroxides

Asbestines and Talcs for Fillers

C. K. WILLIAMS & CO.

EASTON, PA.

PAPER MAKERS' DRYER FELTS TRIUNE and MULTIPLE PLY

Serve every Felt Purpose in an efficient and satisfactory way.

60" to 288"

ENGLISH or BAKER WOVEN

Made in three, four, five and six ply—60" to 214" wide.

FITCHBURG DUCK MILLS

FITCHBURG, MASS.

For 88 Years Makers of Fine Faced Felts For Papermakers

WOOD PULP AGENTS

PRICE & PIERCE, Ltd.,

60 EAST 42nd ST.

NEW YORK

CASEIN

(MCo BRAND)

ANY GRADE ANY QUANTITY

THE CASEIN MFG. COMPANY OF AMERICA, Inc.

205 E. 42nd St. New York, N. Y.

Oldest and Largest Producers of Casein in America

THE CLARK-AIKEN CO.

Successors to
H. C. Clark & Son Machine Co.

PAPER MILL MACHINERY

LEE, MASS.

Revolving Paper Cutters—Rag Cutters—Cylinder Paper Machines—Washing and Beating Engines—Chilled Iron and Paper Calenders—Fan and Stuff Pumps—Engine Roll Bars and Bed Plates—
Cylinder Molds—Marshall Drives—Slitters and Rewinders—Reels—Dryers with Improved Packing Boxes—Wet Machines—Gun Metal and Rubber Rolls—Rolls Reground.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, April 20, 1932.

Trading in the local paper market was only moderately active during the past week. Demand for the various standard grades of paper was light, with few exceptions. There are some inquiries around for future needs, however, which may result in good business. Prices are generally holding to previously quoted levels.

The news print paper market continues listless. Production in the United States and Canada during March amounted to 266,792 tons and shipments to 258,088 tons. The total North American output amounted to 288,798 tons, according to information gathered by the News Print Service Bureau. The price situation remains unchanged.

Paper board production is being maintained in sufficient volume to take care of current requirements. The price trend is irregular. Slight improvement was noticed in the fine paper market. The coarse paper market is exhibiting a fairly strong undertone and kraft wrapping paper quotations are well maintained at the recently advanced levels.

Mechanical Pulp

The position of the ground wood market is practically unchanged. While demand for the various grades is light, production both at home and abroad has been curtailed and the industry is in a sound statistical condition. Offerings of foreign dry mechanical pulp are particularly scarce. Prices remain unaltered.

Chemical Pulp

Steadiness prevails in the chemical pulp market. While demand for the various grades of imported and domestic chemical pulp is somewhat restricted, the continuation of the pulp mill workers strike in Sweden is an important factor in firming the situation. Prices are generally holding to the recently quoted schedule.

Old Rope and Bagging

The old rope market is quiet. Demand for both domestic and imported old manila rope is comparatively light. However, offerings are limited and quotations steady. Small mixed rope is moving slowly. The bagging market is fairly active. Roofing bagging is in seasonal request and scrap and gunny are going forward in fair volume.

Rags

Demand for domestic rags from the paper mills is showing little signs of improvement. The cotton rag situation is dull. Roofing grades are only moderately active. Prices are nominal. The imported rag market continues in the doldrums, although roofing grades are arousing some interest. The price situation is unsatisfactory.

Waste Paper

Board mill demand for the lower grades of paper stock is fairly well maintained. Strictly folded news and No. 1 mixed paper are going forward in satisfactory volume. Quotations on the lower grades are steady. The better grades of waste paper are fairly active. Book stock is exhibiting a strong undertone. Hard white and soft white shavings are in fair request.

Twine

Conditions in the local twine market are fairly satisfactory. Demand for the various grades is mainly along seasonal lines. Supplies are going forward into consumption at a fair pace for the time of year. Despite keen competition for extra desirable orders, prices are generally well maintained and shading is infrequent.

Bids for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., April 20, 1932.—The Government Printing Office has received the following bids for 25,000 sheets (2,525 pounds) of offset paper: Aetna Paper Company, at 6 cents per pound; Dill & Collins Company, 7.2 cents less 2 per cent; Whitaker Paper Company, 7.25 cents; R. P. Andrews Paper Company, 5.75 cents; Barton, Duer & Koch Paper Company, 6.75 cents; Perkins-Goodwin Company, 6.97 cents; Reese & Reese, Inc., 7.24 cents; and Mastercraft Paper Products Company, 7.5 cents.

The Government Printing Office has received the following bids for 40,000 pounds of strawboard: R. P. Andrews Paper Company, at 1.948 cents per pound; Mathers-Lamm Paper Company, 1.9345 cents; Walker Goulard Plehn Company, Inc., 2 cents less 2 per cent; and Old Dominion Paper Company, 1.099 cents.

Union Bag Buys Fleet of Trucks

HUDSON FALLS, N. Y., April 18, 1932.—The Union Bag and Paper Corporation has completed negotiations for the purchase of a fleet of trucks which will be used from now on in transporting large quantities of imported pulp wood from the terminal at Albany to this village. The decision to acquire the trucks was brought about through the unwillingness of the company to meet the alleged high cost of freight shipments under a new branch line ruling. Truck transportation has already been tried out and proved very satisfactory to company officials.

The company also expects to operate its own fleet of barges between Albany and Fort Edward as soon as navigation opens on the barge canal and the trucks are expected to be used in the final journey to the mills.

Mead Sales Co. Discontinues Fraser Line

The Mead Sales Company, with offices in New York, Chicago, Dayton, Ohio, and Chillicothe, Ohio, discontinued the sale of Fraser Pulp and Paper as of April 1, 1932.

The Mead Sales Company continues with its former lines, specializing in book and magazine paper—coated and uncoated, hanging paper and bleached and unbleached woodpulps.

Arthur D. Little, Inc.

Chemists and Engineers to the Pulp and Paper Industry for over Forty Years

Laboratories and Experimental Mill

30 CHARLES RIVER ROAD, CAMBRIDGE, MASS.

Hardy S. Ferguson & Co.

Consulting Engineers

200 Fifth Avenue, New York City

Hardy S. Ferguson.....Member A.S.C.E., A.S.M.E., E.I.C.
Moses H. Teaze.....Member A.S.M.E., E.I.C., A.S.C.E.
J. Wallace Tower.....Member A.S.C.E., A.S.M.E.

Consultation, reports, valuations, and complete designs and engineering supervision for the construction and equipment of

Pulp and Paper Mills and other Industrial Plants.
Steam and Hydro-electric Power Plants
Dams and other Hydraulic Structures.

20 plants to serve You

PAPER MAKERS CHEMICAL CORP.
Kalamazoo, Michigan

V. D. SIMONS

INDUSTRIAL ENGINEER

Pulp and Paper Mills, Hydro-Electric and Steam Power Plants, Electrification Paper Mill Properties.

435 No. Michigan Ave.
CHICAGO, ILL.

GEORGE F. HARDY

Consulting Engineer

305-309 Broadway, New York City, N. Y.

Member—Am. Soc. C.E.—Am. Soc. M.E.—Eng. Inst. Can.

Consultation	Paper and Pulp Mills
Reports	Hydro-Electric and
Valuations	Steam Power Plants
Estimates	Plans and Specifications

Dietz Towel Interfolding Machines
also

TOILET PAPER MACHINES
For making Toilet and Paper Towel Rolls
(With or without perforations)

AUTOMATIC TUBE MACHINES
For Making Wire-Stitched Toilet Tubes

Sanitary Crepe Towel Machines, Roll Tighteners, Slitting and Rewinding Machines, Drop Roll Slitting Machines, Photo Mount Beveling Machines, Rotary Card Cutting Machines, etc.
Correspondence solicited

DIETZ MACHINE WORKS

126-128 W. Fontaine Street
Cor. Waterloo St. (between Front & Second Sts.)
and below Diamond St.
Phila., Penna., U. S. A.

The uses of Liquid Chlorine

are rapidly expanding, so we are improving our facilities, and are prepared to ship promptly in Tank Cars, Multi-Unit Tank Cars (1-ton containers), or Cylinders (150 lbs. or 100 lbs.) from either Philadelphia, Pa., Wyandotte, Mich., Menominee, Mich., or Tacoma, Wash.

Inquiries and general correspondence should be addressed to our Philadelphia Office

Pennsylvania Salt Mfg. Company

Incorporated 1850.

Widener Building, Philadelphia, Pa.

Representatives:
New York Pittsburgh Chicago St. Louis
Works:
Natrona, Pa. Wyandotte, Mich.
Philadelphia, Pa. Menominee, Mich.
Tacoma, Wash.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, April 20, 1932.

BLANC FIXE.—The blanc fixe market continues quiet. Prices are holding to previously quoted levels. The pulp is offered at from $42.50 to $45.00 per ton; while the powder is selling at from 3¼ cents to 3⅜ cents per pound, in barrels, at works.

BLEACHING POWDER.—Demand for bleaching powder is only moderately active. The contract movement is fairly satisfactory. Prices are generally holding to schedule. Bleaching powder is quoted at from $1.75 to $2.00 per 100 pounds, in drums, at works.

CASEIN.—The casein market is easier. Domestic standard ground is now quoted at 6 cents and finely ground at 7 cents per pound. Argentine standard ground is selling at 8¼ cents and finely ground at 9½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. Contract shipments are moving regularly. Solid caustic soda is quoted at from $2.50 to $2.55; while the flake and ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—The position of the china clay market is practically unchanged. Prices are holding to schedule. Imported china clay is quoted at from $11 to $13 per ton; while domestic paper making clay is selling at from $7 to $11 per ton, at mine.

CHLORINE.—Most of the business transacted in the chlorine market during the past week was along routine lines. The contract movement continues normal. Chlorine is still quoted at $1.75 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is displaying a steady trend. The grades of gum rosin used in the paper mills are quoted at from $3.75 to $4.15 per 280 pounds, in barrels, at works. Wood rosin is selling at $2.80 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Paper mill demand for salt cake is listless. Prices remain unchanged. Salt cake is quoted at from $15 to $16; chrome salt cake at from $12 to $13 per ton, in bulk, at works. Imported salt cake is selling at from $14 to $15 per ton, ship side.

SODA ASH.—The soda ash market is exhibiting a fairly strong undertone. Shipments against contract are moving at a steady pace. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1; in bags, $1.25; and in barrels, $1.38.

STARCH.—While demand for starch is restricted, the contract movement is fairly heavy considering prevailing business conditions. Prices remain unchanged. Special paper making starch is selling at $2.54, in bags; and at $2.81 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Some improvement was noticed in the sulphate of alumina market. Prices are well maintained. Commercial grades are still quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues quiet. Sulphur is still quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—The talc market is fairly active. Supplies are moving into consumption in good volume for the season. Domestic talc is still quoted at from $16 to $18 per ton, in bulk, at mine; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@38.00
Bonds	5.00	@53.25
Index	6.00	@12.00
Writings—		
Extra Superfine	6.50	@15.00
Superfine	6.25	@14.75
Tub sized	4.50	@ 7.00
Engine sized	4.00	@ 5.00
Book, Cased—		
S. & S. C.	5.25	@ —
M. F.	3.75	@ 5.00
Coated and Enamel	6.25	@ 9.75
Lithograph	6.75	@11.25
Tissues—Per Ream—		
White No. 1	.65	@ .70
Anti-Tarnish M. G. only	.65	@ .70
Colored	.70	@ .90
White No. 2	.50	@ .60
Kraft	.65	@ .70
Manila	.55	@ .60
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.00	@ 5.25
No. 2 Wood	3.50	@ 4.00
Butchers	3.37½	@ —
Fibre Papers—		
No. 1 Fibre	4.25	@ 5.50
No. 2 Fibre	4.00	@ 4.75
Common Bogus	1.50	@ 3.00
Screenings	2.00	@ 3.00
Card Middies	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs., No. 1	.09¾	@ —
No. 2	.11¾	@ —
Bleached, basis 20 lbs.	.11¾	@ —
(Delivered New York)		
News, per ton—		
Roll, contract	53.00	@ —
Rolls, spot	53.00	@ —
Sheets	58.00	@ —
Side Runs	38.00	@42.00
Kraft—		
No. 1 Domestic	4.75	@ 6.00
No. 2 Domestic	3.25	@ 4.00
Southern	3.25	@ 4.00
Imported	3.50	@ 4.30
Boards—per ton—		
News	24.00	@27.00
Straw	34.50	@45.00
Chip	24.00	@27.00
Binders' Boards	62.00	@70.00
Standard 85 Test Liner	30.00	@32.50
Sgl. Mla. Lt. Chip	35.00	@37.50
(F. o. b. Mill)		
Wood Pulp Boards	70.00	@80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—		
Moist	20.00	@22.00
Dry	22.00	@24.00
(F. o. b. Mill)		
No. 1 Domestic	18.00	@24.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	2.10	@ 2.90
Easy Bleaching	1.60	@ 1.75
No. 1 strong unbleached	1.50	@ 1.65
Mitscherlich unbleached	1.60	@ 1.75
No. 2 strong unbleached	1.25	@ 1.35
No. 1 Kraft	1.50	@ 1.65
No. 2 Kraft	1.35	@ 1.40
Sulphate—		
Bleached	1.85	@ 2.15
(F. o. b. Pulp Mill)		
Sulphite (Domestic)—		
Bleached	2.00	@ 3.75
Easy Bleaching	1.75	@ 1.90
News	1.50	@ 1.65
Mitscherlich	2.40	@ 2.55
Kraft (Domestic)	1.60	@ 2.75
(Delivered Paper Mills)		
Soda Bleached	2.50	@ —

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	4.50	@ 5.00
New White, No. 2	3.50	@ 4.00
Silesias No. 1	3.50	@ 4.00
New Unbleached	6.00	@ 6.50
New Blue Prints	3.25	@ 3.50
New Soft Blacks	2.50	@ 3.00
Blue Overall	3.50	@ 4.00
Fancy	2.50	@ 3.00
Washables	1.75	@ 2.00
Mixed Khaki Cuttings	3.00	@ 3.25
Pink Corset Cuttings	Nominal	
O. D. Khaki Cuttings	3.50	@ 3.75
Men's Corduroy	1.50	@ 2.00
New Mixed Blacks	2.00	@ 2.25

Old Rags

White, No. 1—		
Repacked	5.25	@ 5.75
Miscellaneous	4.25	@ 4.75
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.30	@ 2.50
St. Soiled, White	1.50	@ 1.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.65	@ 1.85
Black Stockings	3.25	@ 3.75
Roofing Rags—		
No. 1	.53	@ .58
No. 2	.48	@ .53
No. 3	.43	@ .48
No. 4	.38	@ .43
No. 5A	.33	@ .38

Foreign Rags

New Rags

New Dark Cuttings	1.40	@ 1.50
New Mixed Cuttings	1.60	@ 1.75
New Light Silesias	3.40	@ 3.50
Light Flannelettes	3.25	@ 3.50
Unbleached Cuttings	5.50	@ 6.00
New White Cuttings	4.75	@ 5.00
New Light Oxfords	4.00	@ 4.25
New Light Prints	2.00	@ 2.25

Old Rags

No. 1 White Linens	5.25	@ 5.50
No. 2 White Linens	4.50	@ 4.75
No. 3 White Linens	3.25	@ 3.75
No. 4 White Linens	1.75	@ 2.25
No. 1 White Cotton	4.00	@ 4.25
No. 2 White Cotton	3.00	@ 3.25
No. 3 White Cotton	2.25	@ 2.50
No. 4 White Cotton	1.40	@ 1.50
Extra Light Prints	1.90	@ 2.10
Ord. Light Prints	1.60	@ 1.75
Med. Light Prints	1.40	@ 1.55
Dutch Blue Cottons	1.35	@ 1.40
French Blue Linens	1.90	@ 2.00
German Blue Linens	1.80	@ 1.90
German Blue Cottons	1.20	@ 1.25
Checks and Blues	1.25	@ 1.30
Lindsay Garments	.75	@ .80
Dark Cottons	.70	@ .75
Old Shopperies	.55	@ .60
New Shopperies	.60	@ .65
French Blues	1.25	@ 1.30

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.10	@ 1.20
Domestic	1.15	@ 1.25
Wool Tares, light	.90	@ .95
Wool Tares, heavy	.90	@ .95
Bright Bagging	.85	@ .90
Small Mixed Rope	.80	@ .90
Manila Rope—		
Foreign	1.50	@ 1.60
Domestic	1.50	@ 1.75
New Burlap Cut	1.65	@ 1.75
Hessian Jute Threads—		
Foreign	2.60	@ 2.75
Domestic	2.80	@ 3.00

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, white, No. 1	2.25	@ 2.50
Hard, white, No. 2	1.60	@ 1.70
Soft, white, No. 1	1.50	@ 1.70
White envelope cuttings	1.90	@ 2.05
Flat Stock—		
Stitchless	.70	@ .80
Overissue Mag	.70	@ .80
Solid Flat Book	.60	@ .70
Crumped No. 1	.45	@ .50
Solid Book Ledger	1.75	@ 1.85
Ledger Stock	.60	@ .70
New B. B. Chips	.20	@ .30
Manilas—		
New Env. Cut	1.75	@ 1.85
New Cuttings	1.30	@ 1.40
Extra No. 1 old	1.00	@ 1.10
Print	.40	@ .45
Bogus Wrapper	.40	@ .45
Container	.25	@ .30
Old Kraft Machine—		
Compressed bales	.90	@ 1.00
News—		
No. 1 White News	1.30	@ 1.40
Strictly Overissue	.35	@ .45
Strictly Folded	.30	@ .35
No. 1 Mixed Paper	.20	@ .25

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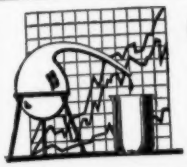
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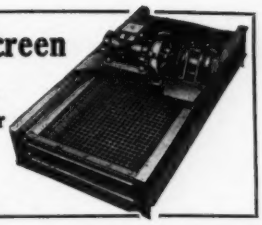

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Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.11¾	@	.12¾
Tube Rope—			
4-ply and larger	.09¾	@	.11¾
Fine Tube Rope—			
4-ply	.11	@	—
3-ply	.12	@	—
2-ply	.13	@	—
Paper Makers Twine			
Balls	.08¾	@	.10¼
Box Twine, 2-3 ply	.07	@	.08
Jute Rope	.09	@	.10
Amer. Hemp, 6	.27	@	.29
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.23	@	.28

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	05	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.07	@	.18
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.50	@	5.00
Southern Kraft	3.25	@	—
No. 2 Kraft	3.25	@	—
Wood Tag Boards	.04¾	@	.06¼
Sulphite Screenings	.03	@	.03¾
Manila Tissue	.07	@	.07½
White Tissue	.07¼	@	.07½

(Delivered Central Territory)

News, per ton—			
Rolls, contract	53.00	@	—
Sheets	58.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.75	@	1.80
No. 1 Hard White	1.55	@	1.60
No. 1 Soft White	1.40	@	1.45
Ledger & Writings	.55	@	.65
Solid Books	.50	@	.55
Blanks	1.15	@	1.20
Kraits	.95	@	1.00
New Kraft Cuts	1.40	@	1.50
Manila Env. Cuts	1.40	@	1.50
Ex. No. 1 Manila	1.00	@	1.10
Print Manila	.35	@	.40
Overissue News	.45	@	.55
Old Newspapers—			
No. 1	.45	@	.50
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.25	@	.30
No. 2	.15	@	.20
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft No. 1	—	@	.04
Southern Kraft No. 2	—	@	.03¾
Common Bogus	.03	@	.04

(Delivered Philadelphia)

News Print Rolls	58.00	@	62.00
Straw Board	50.00	@	—
News Board	30.00	@	32.00
Chip Board	25.00	@	27.50
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	63.00	@	65.00
Carload lots	62.00	@	67.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.05½	@	.06
New White, No. 2	.04	@	.04½
Light Silesias	.04	@	.04½
Silesias, No. 1	.04	@	.04½
Black Silesias, soft	.04	@	—
New Unbleached	.05½	@	.06
Washable, No. 1	.02	@	.02½
Blue Overall	.04	@	.04½
Cottons—According to grades—			
Washable, No. 2	.01½	@	.02
New Blue	.01¾	@	.02
Fancy	.02	@	—
New Black Soft	.02	@	.03
New Light Seconds	.01¾	@	.02
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O.D.	.04½	@	.05
No. 2 Mixed	.03½	@	.04
Corduroy	.02½	@	.03
New Canvas	.06½	@	.07
New Black Mixed	.02½	@	.03

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.50
M. G.	3.50	@	4.00
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	3.00	@	3.50
Roofing Stock—			
Foreign No. 1	1.00	@	1.10
Repacked	.70	@	.80

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	—
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.10	@	2.20
No. 2 Hard White	1.75		2.10
No. 1 Soft White	1.50	@	1.70
No. 2 Soft White	1.40	@	1.50
No. 1 Mixed	.45	@	.55
No. 2 Mixed	.40	@	.50
Solid Ledger Stock	1.20	@	1.30
Writing Paper	.60	@	.75
No. 1 Books, heavy	.60	@	—
No. 2 Books, light	Nominal		
No. 1 New Manila	1.25	@	1.50
No. 1 Old Manila	1.00	@	1.25
Print Manila	.45	@	—
Container Manila	.35	@	.40
Old Kraft	.90	@	1.00
Common Paper	.20	@	—
No. 1 Mixed Paper	.15	@	.25
Straw Board, Chip	.25	@	.35
Binders Board, Chip	.25	@	.35
Corrugated Board	.25	@	.35
Overissue News	.40	@	.50
Old Newspaper	.30	@	.35

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11½
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¾
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.05½
No. 2 Kraft	.03¼	@	.03½

(F. o. b. Boston)

Southern Kraft	.03¾	@	.03½

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¾

(Delivered New England points)

News Print, rolls	—	@	52.50
Straw Board, rolls	.009	@	35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	25.00	@	30.00
Chip Board	—	@	25.00
Chip Board (Creasing)	25.00	@	27.50
Single Manila Lined Chip	—	@	35.00
Single White, Patent Coated News Board—			
Bender	45.00	@	55.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.75	@	3.50
No. 2 Hard White	2.25	@	2.50
No. 1 Soft White	1.50	@	1.60
No. 2 Mixed	.50	@	.55
No. 1 Mixed	.75	@	.85
Solid Ledger Books	1.40	@	1.65
Overissue Ledger Stock	1.35	@	1.60
Mixed Ledgers	1.00	@	1.15
No. 1 Books, heavy	.60	@	.70
No. 1 Books, light	—	@	.45
Crumpled Stitchless Book Stock	1.00	@	1.25
Manila Env. Cuttings	1.50	@	1.60
No. 1 Old Manila	.80	@	.90
White Blank News	1.20	@	1.30
Kraft No. 1	.75	@	.85
Manila	.80	@	.90
No. 1 Mixed Paper	.15	@	.17½
Print Manila	.35	@	.40
Overissue News	.40	@	.45
Old Newspapers	.27½	@	.32½
Box Board, Chip	.17½	@	.20
Corrugated Boxes	.22½	@	.27½
Screening Wrappers	.25	@	.32½

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.10	@	1.15
Domestic	.75	@	.85
Manila Rope—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Transmission Rope	—	@	.90
Mixed String	—	@	.30
Jute Rope	—	@	.85
Jute Carpet Threads	.40	@	.60
Bleachery Burlap	—	@	2.25
Scrap Burlap	.65	@	.80
No. 1 Scrap Burlap	.80	@	.90
Scrap Sisal	.75	@	1.00
Scrap Sisal for shredding	—	@	1.25
Wool Tares, heavy	.80	@	90
New Burlap Cutting	1.00	@	1.25
Australian Pouches	—	@	1.50
Heavy Baling Bagging	1.25	@	1.35
Paper Mill Bagging	.60	@	.70
Bagging No. 2	—	@	.40
No. 1 Burlap	—	@	3.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.04½	@	.04¾
New White No. 2	.03	@	.03¾
Silesias No. 1	.04½	@	.05
New Black Silesias	.02½	@	.03¼
New Unbleached	.04½	@	.05¼
Fancy	—	@	.03¾
Washable	—	@	.03½
Cottons—According to grades—			
Blue Overalls	—	@	.05
New Black, soft	.04	@	.04¼
Khaki Cuttings	.03	@	.03¼
O. D. Khaki	.03½	@	.03¾
Corduroy	.02¾	@	.03
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.25	@	2.50
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	1.00	@	1.25
Thirds and Blues—			
Repacked	—	@	.85
Miscellaneous	.70	@	.75
Black Stockings	2.50	@	3.00
Roofing Stock—			
No. 1	.58	@	.60
No. 2	.48	@	.50
No. 3	.43	@	.48

Foreign Rags
(F. o. b. Boston)

Dark Cottons	—	@	.60
New No. 1 White Shirt Cuttings	5.00	@	5.50
Dutch Blues	—	@	1.80
New Checks & Blues	4.00	@	4.50
Old Fustians	1.10	@	1.15
Old Linsey Garments	.70	@	—

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10½	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¾	@	
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (Carloads)	6.65	@	—
No. 3 M. F. (Carloads)	6.20	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.60	@	—
White Wrap	5.10	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.60	@	—
Fiber	5.60	@	—
Kraft, M. F.	5.98	@	—
Kraft No. 2	5.60	@	—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	56.50	@	57.00
Sheets	61.50	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	45.00	@	—
Sulphite, news grade	40.00	@	—
Sulphite, bleached	58.00	@	65.00
Sulphate	55.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.50	@	—
Soft White	2.25	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	.65	@	—
Kraft	1.75	@	—
News and Scrap—			
Strictly Overissue	.50	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

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